

MEETING
STATE OF CALIFORNIA
AIR RESOURCES BOARD

RIVERSIDE COUNTY ADMINISTRATIVE CENTER
BOARD OF SUPERVISORS CHAMBERS
FIRST FLOOR
4080 LEMON STREET
RIVERSIDE, CALIFORNIA

FRIDAY, MARCH 24, 2017

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JAMES F. PETERS, CSR
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A P P E A R A N C E S

BOARD MEMBERS:

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Mr. John Eisenhut

Senator Dean Florez

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Ms. Edie Chang, Deputy Executive Officer

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Ms. Veronica Eady, Assistant Executive Officer

Ms. La Ronda Bowen, Ombudsman

Ms. Emily Wimberger, Chief Economist

Ms. Analisa Bevan, Assistant Division Chief, ECARS

Mr. Pippin Brehler, Senior Attorney, Legal Office

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

STAFF:

Mr. Joshua Cunningham, Branch Chief, ECARS

Ms. Annette Hebert, Division Chief, ECARS

Ms. Alexandra Kamel, Attorney, Legal Office

Mr. Jeffrey Lidicker, Air Resources Engineer, ECARS

Mr. Pippin Mader, Air Resources Engineer, Monitoring and
Laboratory Division

Mr. Mike McCarthy, Chief Technology Office, ECARS

Ms. Anna Wong, Staff Air Pollution Specialist, Emissions
Compliance, Automotive Regulations and Sciences
Division(ECARS)

ALSO PRESENT:

Ms. Kitty Adams, Adopt a Charger

Ms. Fariya Ali, Pacific Gas & Electric

Mr. Marco Anderson, Southern California Association of
Governments

Mr. Thomas Ashley, Greenlots

Ms. Betty Barberena, SALEF

Ms. Sutida Bergquist, Professional Engineers in California
Government

Mr. John Boesel, CalStart

Mr. John Bozzella, Association of Global Automakers

Dr. Rasto Brezny, Manufacturers of Emission Controls
Association

Mr. Tom Cackette, Environmental Defense Fund

Mr. Fernando Cazerias, Trust for Public

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

ALSO PRESENT:

Ms. Patricia Chen, LA Metro

Mr. Carlos Cortes, BTC Power, Inc.

Mr. John Dangberg, City of Sacramento, Mayor Darrell Steinberg

Mr. Steven Douglas, Alliance of Automobile Manufacturers

Ms. Allis Druffel, California Interfaith Power & Light

Mr. Harvey Eder, Public Solar Power Coalition

Mr. William Elrick, California Fuel Cell Partnership

Ms. Leah Feldon, Oregon Department of Environmental Quality

Mr. Steve Flynn, New York Department of Environmental Conservation

Mr. Chet France, Environmental Defense Fund

Ms. Genevieve Gale, Central Valley Air Quality Coalition

Mr. Larry Greene, Sacramento Metropolitan Air Quality Management District

Mr. Tom Gross, Southern California Edison

Ms. Irene Gutierrez, Natural Resources Defense Counsel

Ms. Cassie Halls, Shared-Use Mobility Center

Ms. Christina Heartquist, Consumer Federation of America

Ms. Megan Herzog, Conservation Law Fund

Mr. Henry Hogo, South Coast Air Quality Management District

Ms. Laurie Holmes, Motor and Equipment Manufacturers' Association

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

ALSO PRESENT:

Ms. Bonnie Holmes-Gen, American Lung Association

Mr. Merlyn Hough, Lane Regional Air Protection Agency

Dr. Karen Jacpor, American Lung Association

Mr. Brendan Jones, Electrify America

Ms. Michelle Kinman, Environmental California Research & Policy Center

Ms. Christine Kirby, Massachusetts Department of Environmental Health

Mr. Rob Klee, Connecticut Department of Energy and Environmental Protection

Rev. Earl Koteen, Sunflower Alliance

Dr. Chris Langdon, Drucker School, Claremont Graduate University

Mr. Joel Levin, Plug In America

Mr. Mike Lewis, Pearson Fuels

Ms. Amy Lilly, Mercedes-Benz

Mr. Michael Lord, Toyota

Mr. Nicholas Lutsey, International Council of Clean Transportation

Mr. Bill Magavern, Coalition for Clean Air

Ms. Lisa McGhee, San Diego Airport Parking Company

Ms. Jennifer Moeller, Moms Clean Air Force

Mr. Ken Morgan, Tesla

Mr. Simon Mui, Natural Resources Defense Counsel

Ms. Hilary Norton, FAST LA

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

ALSO PRESENT:

Mr. Graham Noyes, Low Carbon Fuels Coalition

Ms. Gloria Ohland, More LA

Ms. Kathryn Phillips, Sierra Club of California

Ms. Michelle Pierce

Ms. Julia Rege, Global Automakers

Dr. David Reichmuth, Clean Vehicles Program

Ms. Alisa Reinhardt, California New Car Dealers
Association

Ms. Susana Reyes, City of LA, Office of Mayor Garcetti

Ms. Ashley Rosia-Tremonti, City of San Diego

Mr. Craig Scott, Toyota

Mr. David Schembri, EVgo

Ms. Anne Smart, Charge Point

Ms. Susana Reyes, City of Los Angeles, Office of Mayor
Garcetti

Mr. John Shears, Center for Energy Efficiency and
Renewable Technologies

Mr. Cory Shumaker, California Hydrogen Business Council

Ms. Anne Smart, Charge Point

Mr. Matt Solomon, Northeast States for Coordinated Air Use
Management

Mr. Joe Sullivan, IBEW/NECA

Mr. Mike Swords, Los Angeles Cleantech Incubator

Mr. Ricky Teebay, County of Los Angeles

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

ALSO PRESENT:

Ms. Eileen Tutt, California Electric Transportation Coalition

Mr. Desmond Wheatley, Envision Solar

Mr. John White, Center for Energy Efficiency and Renewable Technologies, Hydrogen Business Council

Mr. Beau Whiteman, Tesla

Mr. Jerard Wright, BizFed

Mr. Andy Wunder, CERES

Mr. Kevin Zheng, SemaConnect

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

2 CHAIR NICHOLS: Good morning. If you could take
3 your seats, please.

4 I know there are people still making their way
5 through the security line, but I don't want to keep the
6 rest of the group waiting either.

7 Good morning and welcome. And we'll go through
8 our opening drill on Day 2 of the March Public Meeting of
9 the Air Resources Board.

10 So let's please rise for the Pledge of
11 Allegiance.

12 (Thereupon the Pledge of Allegiance was
13 Recited in unison.)

14 CHAIR NICHOLS: There's a nice photo in one of
15 the publications from yesterday's meeting that shows Sandy
16 and me and Barbara up in front, and makes it look as
17 though we've taken over the county of Riverside.

18 (Laughter.)

19 CHAIR NICHOLS: So in case anybody is
20 wondering --

21 (Laughter.)

22 CHAIR NICHOLS: -- we're only temporary visitors.
23 But we're very grateful to Riverside County for lending us
24 their board hearing room once again. It's a good place to
25 meet.

1 So if we can have the clerk please call the roll.

2 BOARD CLERK McREYNOLDS: Dr. Balmes?

3 BOARD MEMBER BALMES: Here.

4 BOARD CLERK McREYNOLDS: Mr. De La Torre?

5 BOARD MEMBER DE LA TORRE: Here.

6 BOARD CLERK McREYNOLDS: Mr. Eisenhut?

7 BOARD MEMBER EISENHUT: Here.

8 BOARD CLERK McREYNOLDS: Senator Florez?

9 Assembly Member Garcia?

10 Supervisor Gioia?

11 Senator Lara?

12 Ms. Mitchell?

13 BOARD MEMBER MITCHELL: Here.

14 BOARD CLERK McREYNOLDS: Ms. Riordan?

15 BOARD MEMBER RIORDAN: Here.

16 BOARD CLERK McREYNOLDS: Supervisor Roberts?

17 Supervisor Serna?

18 BOARD MEMBER SERNA: Here.

19 BOARD CLERK McREYNOLDS: Dr. Sherriffs?

20 BOARD MEMBER SHERRIFFS: Over here.

21 (Laughter.)

22 BOARD CLERK McREYNOLDS: Professor Sperling?

23 BOARD MEMBER SPERLING: Here.

24 BOARD CLERK McREYNOLDS: Ms. Takvorian?

25 BOARD MEMBER TAKVORIAN: Here.

1 BOARD CLERK McREYNOLDS: Vice Chair Berg?

2 VICE CHAIR BERG: Here.

3 BOARD CLERK McREYNOLDS: Chair Nichols?

4 CHAIR NICHOLS: Here.

5 BOARD CLERK McREYNOLDS: Madam Chair, we have a
6 quorum.

7 CHAIR NICHOLS: That's great.

8 (Laughter.)

9 CHAIR NICHOLS: There really is no way we can
10 move Dr. Sherriffs in?

11 Wait, there's --

12 BOARD MEMBER DE LA TORRE: I'll switch.

13 BOARD MEMBER BALMES: He's over here in the left
14 bank.

15 CHAIR NICHOLS: I know.

16 BOARD MEMBER SHERIFFS: Look at all the
17 microphones I get.

18 (Laughter.)

19 CHAIR NICHOLS: All right. Well, we'll just --
20 we'll remember to bring you in.

21 Good morning, everybody.

22 A couple of usual opening announcements. If
23 you're planning on testifying on any of the items on
24 today's agenda, we appreciate it if you would fill out
25 your Request-to-Speak form in advance on one of the cards

1 outside or get it from the clerk. And she puts the list
2 together so it makes it much easier for us to know what's
3 going on.

4 We're planning on imposing our usual 3-minute
5 limit on speakers. Although, yesterday we got to the
6 point where we actually had to go down to a 2-minute limit
7 at the very end of the day, and it didn't work out too
8 badly. But by that time everybody was feeling more like
9 compressing their comments, so it worked out pretty well.

10 For safety reasons, I'll have to ask you to note
11 the exits at the rear of the room. In the event of an
12 alarm, we're to exit the building through those exits --
13 exit doors and go out of the building until there's an
14 all-clear signal.

15 And I believe that as far as opening comments,
16 that would be it.

17 We're really happy to kick off the day with
18 something unusual and very special; and that is a
19 recognition of ARB staff. We don't often take time during
20 our public meetings for any of the relatively routine
21 events that we hold where we single out people for special
22 merit during the course of the year. But this is a
23 recognition of something that was truly remarkable in the
24 history of ARB, and that was the breaking of the case on
25 the international scandal that we now know as the

1 Volkswagen defeat device.

2 Under the Clean Air Act, as everyone knows who's
3 here, California gets to set and enforce its own vehicle
4 standards. And it's thanks to this provision of the Clean
5 Air Act that Volkswagen's actions were actually uncovered.

6 The in-use compliance program that ARB operates
7 ensures that cars sold in California are still providing
8 emissions controls years after they leave the showroom.
9 We're fortunate that dozens of scientists, technicians,
10 engineers, and lawyers who are at the top of their fields
11 come to work here and are engaged in this and some of our
12 other programs.

13 We are also doubly blessed that our engineers
14 exhibited an unparalleled level of commitment and
15 dedication along with the intellectual imagination and
16 problem-solving skills to detect the defeat device that
17 had remained hidden from the eyes of other agencies around
18 the world, although it was hidden in plain sight for
19 almost a decade. I'm sure Volkswagen may have thought
20 that their engineers were able to keep this illegal
21 software hidden forever. But they didn't consider that
22 one day they would have to come face to face with the
23 collective ingenuity of our California engineers.

24 This case truly shows I think some of the best at
25 ARB, the dedicated professional staff from various

1 professions, using sound science and strong technical
2 know-how, to ensure that our programs and policies
3 actually deliver on the promise of cleaner air. It's not
4 just about writing regulations. It's about implementing
5 them and enforcing them.

6 ARB's success is not only shared with all of the
7 Californians who benefit from our programs, but it also I
8 think helps to achieve recognition for the professions
9 that they come from, particularly the engineering
10 professions, many of whom work in other parts of State
11 government and don't always get the opportunity to be
12 recognized.

13 So today, we are very honored that the
14 Professional Engineers in California Government
15 organization is recognizing our staff engineers from the
16 Volkswagen case with their highest honor. And to present
17 these awards to the engineers involved in uncovering the
18 Volkswagen defeat devise we are joined by President Elect
19 Sutida Bergquist of the Professional Engineers in
20 California Government. Following a brief introduction,
21 each of the awardees will rise to be recognized as their
22 names are called. And I ask that you please hold your
23 applause till the end of the roll call.

24 So I would now like to invite Ms. Bergquist to
25 the podium.

1 MS. BERGQUIST: Good morning. My name is Sutida
2 Bergquist. I am the president elect of the Professional
3 Engineers in California Government. I want to thank the
4 Air Resources Board and Chair Mary Nichols for allowing me
5 to speak briefly on behalf of our organization which
6 represents 13,000 State engineers.

7 Each year we honor the important work of the
8 employees we represent with our Professional Achievement
9 Award.

10 For 2016, PECG has decided be bestow this award
11 to more than 80 ARB engineers and related staff on the
12 board's Volkswagen Diesel Cheating Detection Team.

13 We have never given the award to so many people
14 at one time, but the impact of the team's services is
15 without precedent.

16 Two years ago the ARB asked a question: Why did
17 Volkswagen's so-called clean diesel engine pass smog
18 tests, but when driven the cars with the engine threw out
19 pollution that exceeded legal limits?

20 That question and the relentless pursuit of the
21 answer by VW Diesel Cheating Detection Team forced one of
22 the world's largest automakers to admit it's used
23 sophisticated software to trick emissions tests. Last
24 year, Volkswagens recalled 482,000 vehicles sold in
25 America. Another 8.5 million cars in Europe were

1 affected. At least six Volkswagen executives has been
2 charged with crimes. The company has admitted to several
3 crimes and has paid billions of dollars in fines.

4 France and Italy are investigating emissions from
5 diesel Volkswagens sold in their country.

6 And just last week German authorities searched
7 Volkswagen and Audi offices and ceased company records, as
8 the legal probes into the case widen again.

9 And it all started because of ARB's persistent
10 investigation.

11 Who knows how much damage was avoided because you
12 guarded the public good. Who knows how long the scheme
13 might have continued to secretly foul the environment and
14 harm public health if you weren't watching. Who knows how
15 many -- how many more of those vehicles would be on the
16 road right now churning up to 40 times the pollution that
17 the law allows had you not intervened.

18 Your work on this case has displayed to the world
19 our California government at its best.

20 I am honored to present the 2016 Professional
21 Achievement Award today. And I am aware that some of them
22 are some of the folks that work on this in Sacramento. So
23 I want to give the shout out to them as well, that because
24 of you it showcases the work that State engineers and
25 related professions perform every day, most of the time

1 with a little public recognition and sometimes with plenty
2 of private pushback.

3 We will recognize employees individually at lunch
4 in El Monte. In the moment, we will ask everyone on the
5 team to stand and come forward for a photo with the Board.

6 Congratulations from PECG, and thank you service
7 not only to our great state but to the world.

8 Thank you.

9 (Applause.)

10 MS. BERGQUIST: Can you stand up to please be
11 recognized.

12 (Standing applause.)

13 (Photo taken.)

14 CHAIR NICHOLS: That was a fun way to start the
15 day.

16 That photo is going to be one for the ages,
17 really.

18 All right. Everybody can get settled.

19 The next item on today's agenda is a report from
20 the staff on California's Midterm Review of the Advanced
21 Clean Cars regulations.

22 Just a bit of history here. In January 2012, the
23 Board approved regulations to significantly reduce both
24 criteria pollution and greenhouse gas emissions from
25 passenger vehicles and light-duty trucks for the 2015 and

1 later-model years.

2 As part of this package, the Board also ramped up
3 the requirements for zero-emission vehicles in California
4 starting in the 2018 model year.

5 At the conclusion of the January 2012 hearing,
6 the Board directed staff to examine a number of
7 outstanding issues pertaining to those regulations and
8 report back to us as part of a midterm review.

9 The first issue: The appropriateness of the 2022
10 through 2025 model year national -- national greenhouse
11 gas standards included a commitment for ARB to participate
12 with the U.S. EPA and the National Highway Traffic Safety
13 Administration in a federal midterm evaluation.

14 The second issue centered around the feasibility
15 and timing for implementing California's one milligram per
16 mile particulate matter standard for 2025 model year
17 light-duty vehicles.

18 And a third area of issues included a review of
19 the appropriateness of the zero-emission vehicle
20 requirements for 2018 and subsequent model years.

21 The results of staff's assessment were published
22 in a comprehensive midterm report released on January
23 18th, and they will be summarized in today's presentation.

24 Mr. Corey, would you please introduce this item.

25 EXECUTIVE OFFICER COREY: Yes. Thanks, Chair

1 Nichols.

2 California's was first to adopt light-duty
3 greenhouse gas emission standards. They began in model
4 year 2009. Since federal adoption of comparable standards
5 starting in 2012, we participated in a national program
6 provided California does not lose ground towards attaining
7 its own emission requirements and goals. To that end,
8 California added regulatory flexibility that has allowed
9 California vehicles to certify to national greenhouse gas
10 standards as an alternative to our own standards since
11 model year 2020 -- rather 2012.

12 It's worth mentioning that California neither
13 relinquished nor accepted any limit to authority to
14 control greenhouse gas emissions from motor vehicles by
15 agreeing to this regulatory flexibility.

16 Before we start the staff presentation on
17 California's midterm review, I'd like to mention the
18 conclusions of the federal midterm evaluation. On
19 November 30th, 2016, U.S. EPA proposed to determine that
20 the 2022 through 2025 model year passenger vehicle
21 greenhouse gas standards remain appropriate and no changes
22 to the regulations are warranted.

23 After considering all comments received in
24 response to the proposed determination, U.S. EPA confirmed
25 its findings in a final determination which was signed by

1 the administration on January 12th, 2017.

2 This determination is consistent with ARB staff's
3 own findings in our consideration of public comments that
4 supports maintaining the greenhouse gas standards and
5 retaining the team to comply regulatory flexibility for
6 2017 through 2025 model years as an alternative to our own
7 standards.

8 Staff will also present the results of our
9 studies to address the Board's questions on the
10 feasibility of the one milligram per mile particulate
11 matter standard for light-duty vehicles and the
12 appropriateness of a current zero-emission vehicle
13 requirements.

14 Pippin Mader of the Monitoring and Laboratory
15 Division will now start the staff's presentation, followed
16 by Anna Wong of the Emissions Compliance Automotive
17 Regulations and Science Division.

18 And with that, Pippin.

19 (Thereupon an overhead presentation was
20 Presented as follows.)

21 AIR RESOURCES ENGINEER MADER: Thank you,
22 Mr. Corey. Good morning, Chair Nichols and members of the
23 Board.

24 Today I'll provide summary of our conclusions
25 from the midterm review of California's Advanced Clean Car

1 program.

2 --o0o--

3 AIR RESOURCES ENGINEER MADER: First, let me
4 start off with a refresher on the Advanced Clean Car
5 program. In 2012, the Board adopted a comprehensive set
6 of regulations for light-duty vehicles as an integrated
7 package laying out emissions standards through the 2025
8 model year. As shown in the pie chart, there are three
9 distinct elements that make up the program. The first two
10 are part of a Low Emissions Vehicle or LEV program. The
11 LEV criteria program provides standards for pollutants
12 such as hydrocarbons, oxides of nitrogen, and particulate
13 matter. While the LEV greenhouse gas, or GHG, program
14 provides standards for pollutants such as carbon dioxide
15 and methane. As adopted, these two elements will yield a
16 projected 75 percent reduction in criteria pollutants, a
17 90 percent reduction in the PM standard, and a 34 percent
18 reduction in greenhouse gas emissions by 2025.

19 The third key element of the program is our
20 zero-emissions vehicle, or ZEV, program. The ZEV mandate
21 is a technology-forcing program that requires vehicle
22 manufacturers to produce an increasing number of ZEVs
23 including battery, fuel cell, and plug-in hybrid electric
24 vehicles in a 2018 through 2025 model years.

25 --o0o--

1 AIR RESOURCES ENGINEER MADER: Even with the
2 significant climate change and air quality challenges. On
3 top of the timeline, we have identified the nearer-term
4 climate goals. Equally important, on the bottom we have
5 identified near-term air quality standards for particulate
6 matter, or PM, and ozone. The adopted LEV III program
7 represents our third generation of light-duty vehicle
8 standards. These fleet-wide emissions reductions are
9 needed in the light-duty transportation sector to help
10 attainment for both the 2023 and 2031 air quality
11 requirements as well as a 2020 and 2030 greenhouse gas
12 targets.

13 The ZEV requirement continues promoting the
14 development of advanced technology that is needed to put
15 us on the path to electrifying the fleet in order to meet
16 longer-term goals.

17 --o0o--

18 AIR RESOURCES ENGINEER MADER: With that
19 background, let's move into midterm review. When adopted
20 in 2012, the Board noted a number of specific areas that
21 they wanted staff to investigate and report back on as we
22 got closer to implementation. Taking these one by one:

23 With respect to greenhouse gas, the Board committed
24 staff to working with our federal agency partners to
25 reevaluate the appropriateness of the 2022 through 2025

1 model year greenhouse gas standards. This is the midterm
2 review we have been hearing so much about these days.

3 For criteria pollutant standards, there were a
4 couple of areas regarding the one milligram per mile PM
5 standard. Specifically, industry voiced concern at the
6 time regarding the accuracy of measurement equipment at
7 those very low levels and several Board members asked us
8 to track technology development to confirm that the
9 standards were both technically feasible and appropriate
10 to begin phasing in for the 2025 model year.

11 And for the ZEV Program, the Board asked staff to
12 track the progress of technology and industry to evaluate
13 if the approp -- adopted requirements out to 2025 remained
14 appropriate for both California and the nine Section 177
15 states that have also adopted our requirements.

16 Given the newness of the plug-in hybrid electric
17 vehicle, or PHEV, technology in 2012, the Board also asked
18 staff to study the development and usage of PHEVs to
19 reevaluate whether they were treated appropriately within
20 the regulation.

21 --o0o--

22 AIR RESOURCES ENGINEER MADER: Before we go
23 farther, I'd like to take a moment to help clarify some of
24 the interactions between our midterm review and a parallel
25 review that our federal partners, U.S. EPA and the

1 National Highway Traffic Safety Administration, or NHTSA.

2 Two of the elements in the advanced clean car
3 review, the criteria pollutant standards and the ZEV
4 Program, are California specific requirements and
5 therefore only part of ARB's midterm review.

6 However, both California and the federal program
7 review overlapped in the assessment of the greenhouse gas
8 standards. I'll elaborate in the next few slides how
9 U.S. EPA, NHTSA, and CARB collaboratively conducted an
10 assessment of the greenhouse gas standards as part of a
11 national program.

12 --o0o--

13 AIR RESOURCES ENGINEER MADER: Starting in 2012,
14 we adopted the Advanced Clean Cars program and later that
15 year the federal greenhouse gas standards were adopted.
16 As part of an agreement to promote a single national
17 program for greenhouse gas standards, California amended
18 its regulation in late 2012 to include a provision known
19 as "deemed to comply," allowing manufacturers to comply
20 with the national standards in lieu of the
21 California-specific standards. This agreement was
22 premised on strong national standards.

23 Over the last four years, extensive work has been
24 done by CARB, EPA, and NHTSA including internal and
25 external research, surveys and analysis of vehicle owners,

1 and laboratory testing to inform the review of the
2 national standards.

3 In July of last year, the first key milestone in
4 the federal review occurred with the release of the
5 Technical Assessment Report, or TAR, jointly authored by
6 CARB and its federal partners. Later that year, CARB
7 hosted a technical symposium that covered emerging
8 technologies not included in the TAR but being pursued by
9 vehicle manufacturers for near-term implementation.

10 Finally, this year we released our midterm review
11 report in preparation for today's hearing. A final
12 determination was also issued by the EPA earlier this year
13 that concluded EPA's national greenhouse gas standards for
14 2022 through 2025 model years were appropriate and would
15 remain as currently adopted.

16 However, just last week the new federal
17 administration announced that they will be reconsidering
18 that final determination over the course of the next year.
19 We do not believe that reconsideration is warranted given
20 the completeness of the review that has already occurred.

21 --o0o--

22 AIR RESOURCES ENGINEER MADER: Okay. Let's
23 quickly review our greenhouse gas standards.

24 ARB established the first vehicle greenhouse gas
25 standards in the nation beginning with the 2009 model

1 year. Subsequently, U.S. EPA also set standards for 2012
2 through 2016 that closely aligned with California's
3 standards and paved the way for the first national
4 program.

5 Then in the 2012 time frame, CARB and EPA
6 separately set comparable greenhouse gas standards out to
7 2025 and again provided for a continuation of the national
8 program. However, given the latter years of the standard
9 were still 10 years away, CARB and the federal agencies
10 agreed to conduct a midterm evaluation focused only on the
11 reassessment of the appropriateness of the 2022 through
12 2025 standards.

13 --o0o--

14 AIR RESOURCES ENGINEER MADER: So what have we
15 learned? First let's take a look at how manufacturers are
16 complying with the current standards.

17 The yellow diamonds on the graph represent the
18 greenhouse gas standards for the nationwide fleet for the
19 last four years and, for reference, also show what the
20 standards would be if they were specific to the California
21 fleet. Since the California fleet of new vehicles sold
22 each year includes a higher fraction of cars than the
23 nationwide fleet, the standards for California is lower
24 than for the federal fleet. And of course, you can see
25 that the standards get progressively lower each year.

1 --o0o--

2 AIR RESOURCES ENGINEER MADER: If we now look at
3 the bars on the chart, we can see what emission levels the
4 actual fleet was certified to in each of the last four
5 years. Vehicle manufacturers have been overcomplying with
6 the federal standards for each of the last four years.
7 For comparison, you can see that the California fleet,
8 which includes a higher fraction of zero-emission
9 vehicles, is generally overcomplying by an even larger
10 margin. Also noteworthy is that this overcompliance
11 generates credits for the vehicle manufacturers, which
12 they can then bank and use in future years to help meet
13 standards.

14 --o0o--

15 AIR RESOURCES ENGINEER MADER: So why are the
16 vehicles able to overcomply? Because manufacturers and
17 suppliers have been quite busy. Technology to reduce
18 greenhouse gas emissions has been evolving rapidly and
19 manufacturers have been able to roll out the new
20 technology at a significant pace. Much of the gains
21 observed so far are from improved engines and
22 transmissions, like smaller turbocharged engines and
23 redesigned multi-gear automatic transmissions.

24 However, there are several other key technologies
25 that have been helping, including vehicle light-weighting,

1 improved aerodynamics, and lower rolling resistance tires.
2 Together, these reduce the amount of energy needed to move
3 the vehicle.

4 And other technologies are just now entering the
5 market in large shares like stop-start systems that
6 temporarily turn the engine off when a vehicle is at idle.

7 All told, over 20 percent of new vehicles sold in
8 2016 model year already meet the 2020 model year
9 standards - a full four to five years ahead of the curve.

10 --o0o--

11 AIR RESOURCES ENGINEER MADER: So what more is it
12 going to take to get out to 2025? Predominantly,
13 incremental improvements to conventional technologies.

14 The pie chart here shows the composition of the
15 projected vehicle fleet that would be needed in 2025 to
16 meet the standards. From the extensive testing and
17 modeling analysis for the midterm evaluation, gasoline
18 engines are predominant, with nearly 95 percent of the
19 fleet primarily utilizing advanced technology engines. Of
20 note, only a small portion of the fleet would need to be
21 electrified.

22 Regarding costs, the most recent analysis for
23 EPA's proposed determination shows that the cost to comply
24 is \$300 lower than originally projected in 2012.

25 --o0o--

1 AIR RESOURCES ENGINEER MADER: So what does this
2 all mean in California?

3 Back in 2012, we projected the average fleet out
4 to 2025 model year, shown as the black line on the graph,
5 culminating in a value of 167 grams per mile in 2025.
6 Since that time, we have four additional years of data on
7 the exact mix of cars and trucks being sold. We have also
8 seen gasoline prices fall dramatically and shift in
9 consumer purchases away from car models and into small
10 SUVs. Taking all this into account, we have updated our
11 projections of the future fleet, including analyzing a few
12 different sensitivity cases regarding future fuel prices
13 and the types of vehicles being sold. The green-shaded
14 area represents what these new analyses project for
15 California and, as you can, even with the slight shift in
16 sales mix that is occurring, California is still on track
17 for the same or better greenhouse gas reductions by 2025.

18 --o0o--

19 AIR RESOURCES ENGINEER MADER: During the midterm
20 review, the vehicle manufacturers raised concerns with the
21 analysis and conclusions. Primarily the manufacturers
22 have indicated they believe that the analysis
23 overestimates the efficiency of some of the technologies
24 and thus underestimates the total amount of technology
25 that will be needed. The rationale continues that adding

1 more advanced technology, specifically strong
2 electrification like full hybrids, will mean higher costs
3 to comply than projected. And, they argue, consumer
4 acceptance and demand for fuel efficient vehicles,
5 especially strong electrification, is inadequate to enable
6 them to meet the standards.

7 Staff, however, disagrees. The data underpinning
8 our analysis is exhaustive and well grounded in testing of
9 actual engines and transmissions and supports that the
10 standards can be met without the higher levels of
11 technology industry is suggesting. Alternative scenarios
12 show that there are several cost-competitive gasoline
13 technologies available to meet the standards. These
14 analyses do not even include some promising technologies
15 that manufacturers have already announced for the near
16 future. Lastly, electrified vehicle sales in California
17 are already at levels near what the projected as needed by
18 2025 and prospective buyers have expressed interest in
19 zero-emissions vehicles at even higher levels than that.

20 Which leads us to our recommendation for the
21 greenhouse gas standards.

22 --o0o--

23 AIR RESOURCES ENGINEER MADER: Based on the
24 extensive analysis done with our federal partners over the
25 last four years, the data supports the conclusion that the

1 2022 through 2025 model year federal standards are
2 appropriate as currently adopted. Accordingly, staff
3 recommends continued participation in a national program
4 through 2025, provided no further changes weaken the
5 expected benefits in California.

6 --o0o--

7 AIR RESOURCES ENGINEER MADER: Today's
8 presentation concludes California's midterm review of the
9 2022 through 2025 greenhouse gas standards. The U.S.
10 EPA's review has also been concluded, after an extensive
11 public process, and drew complementary conclusions
12 consistent with the data. U.S. EPA is reopening that
13 process. Staff believes the evidence and the law do not
14 support this action.

15 Should that federal process nonetheless continue,
16 CARB will continue to vigorously advocate for continuing
17 greenhouse gas reductions as the evidence indicates is
18 appropriate.

19 Should the federal standards not follow the best
20 available evidence, staff will have to revisit our
21 recommendation regarding the one national program in light
22 of any changes.

23 Also of note is that Canada is performing an
24 independent review of greenhouse gas standards that are
25 closely aligned with the currently adopted federal

1 milligrams per mile even though most gasoline vehicles
2 actually emitted below 1 milligram per mile. However,
3 some new technologies, most notably direct fuel injection
4 systems, were starting to show up with significantly
5 higher PM emissions.

6 To avoid backtracking, the LEV III standards
7 established both an interim PM standard at 3 milligrams
8 per mile and a final standard at 1 milligram per mile.

9 As shown by the bars on the graph, both standards
10 phase in over multiple years with vehicles beginning just
11 now to certify to the 3 milligram per mile standard, while
12 the 1 milligram per mile standard starts to take effect
13 with the 2025 model year.

14 In 2012, the Board directed staff to re-examine
15 the measurement methods to confirm they were able to
16 measure at the 1 milligram level.

17 And the Board also asked staff to re-examine the
18 stringency and phase-in timing of the 1 milligram per mile
19 standard.

20 --o0o--

21 AIR RESOURCES ENGINEER MADER: In responding to
22 the measurement question, staff conducted extensive
23 emissions testing and research of laboratory methods and
24 alternative measurement methods. The results of that
25 investigation, which included several peer-reviewed

1 publications, were presented to the Board in October 2015.
2 And while the investigation included a look at many
3 alternative methods such as particulate number counts and
4 cutting-edge real-time measurements, our conclusions were
5 that the current gravimetric method for measuring PM
6 emissions is sufficiently accurate and continues to be
7 appropriate for the future.

8 --o0o--

9 AIR RESOURCES ENGINEER MADER: Next was
10 evaluating the feasibility and implementation of the 2025
11 PM standards. Part of the original concern was that the
12 engine technologies needed for stringent greenhouse gas
13 emissions standards would have difficulty with PM
14 emissions control. Accordingly our testing focused on
15 recently redesigned vehicles with advanced greenhouse gas
16 control technologies similar to what is expected as
17 greenhouse gas standards decline.

18 The vehicles tested are shown across the bottom
19 of the chart and include vehicles with newer fuel
20 injection, hybrid, and plug-in hybrid electric vehicles.

21 While most of these vehicles are not yet
22 certifying to a 3 milligram per mile standard, you can see
23 from the chart that many are already emitting at a level
24 that is at half the standard.

25 However, when looking at the future 1 milligram

1 per mile standard, only a subset of the vehicles currently
2 comply. Most vehicles will likely go through another
3 engine redesign cycle to implement the further refinements
4 needed to comply with the 2025 standard. So let's talk
5 about the type of refinements that are needed.

6 --o0o--

7 AIR RESOURCES ENGINEER MADER: Good PM control
8 requires tight control of air and fuel during all
9 operational modes of the engine. The most important
10 aspect is control within the combustion chamber itself.
11 Our testing and research found that manufacturers and
12 suppliers are rapidly learning in this area. But the
13 process takes time to optimize and it must be done in
14 conjunction with greenhouse-gas-related engine updates to
15 ensure complete control for all emissions.

16 While we expect manufacturers will likely meet
17 the PM standards with optimized designs and in-cylinder
18 control, there are also after-treatment technologies that
19 can be used to control PM emissions.

20 --o0o--

21 AIR RESOURCES ENGINEER MADER: Gasoline
22 particulate filters, or GPFs, can be used to filter and
23 continuously oxidize particles that are emitted from the
24 engine. The photo on the side shows a prototype GPF
25 tested by CARB on two higher emitting vehicles. The

1 results in the bar chart show PM emissions of over 5
2 milligrams per mile before installation, and levels below
3 1 milligram per mile with the system installed.

4 GPFs can effectively control PM, but they also
5 represent added hardware and expense. GPFs are not yet in
6 wide-scale production, but they are expected to be widely
7 used in Europe. From staff's analysis, GPF technology may
8 be best used for added flexibility to vehicle
9 manufacturers when they design for compliance.

10 --o0o--

11 AIR RESOURCES ENGINEER MADER: In our
12 investigation, we observed that the effectiveness of PM
13 control can vary during different types of driving. The
14 blue bars show the results from our testing for the
15 vehicles that already emit less than 1.5 milligrams per
16 mile on the standard emissions test cycle.

17 The yellow bars show results from the same
18 vehicles when driven on a more aggressive test cycle. As
19 you can see, most of these vehicles have similar emissions
20 results across the two cycles and are still below 1.5
21 milligrams per mile, indicating robust PM control.

22 However, there are some test results that show
23 significantly higher PM emissions under more aggressive
24 driving conditions.

25 --o0o--

1 AIR RESOURCES ENGINEER MADER: In conclusion,
2 staff has determined that the 1 milligram per mile PM
3 standard is feasible and therefore recommends no change to
4 the standard or the phase in said you'll.

5 However, CARB plans further study and may
6 consider future regulatory proposals to ensure good PM
7 control in all real-world driving conditions.

8 --o0o--

9 AIR RESOURCES ENGINEER MADER: For the third
10 piece of our review I would like to turn the presentation
11 over to my co-worker, Ms. Anna Wong, to summarize the
12 findings of our review of the zero-emissions vehicle
13 requirements.

14 --o0o--

15 STAFF AIR POLLUTION SPECIALIST WONG: Good
16 morning, Chair Nichols and members of the Board.

17 For the next section of the presentation, I will
18 focus on the zero-emission vehicle, or ZEV, regulation.
19 Prior to the Board adopting the Advanced Clean Cars
20 amendments in 2012, the ZEV regulation essentially
21 flat-lined the requirements past the 2018 model year. In
22 2012, the Board adopted annual increasing requirements
23 through 2025 model year that were projected at that time
24 to result in 15 percent of 2025 model year new car sales
25 in California to be ZEVs and plug-in hybrids. After this

1 historic increase in ZEV requirements, the Board asked
2 staff to ensure those requirements would still be
3 appropriate leading up to the 2018 model year
4 implementation, both in California and the other states
5 that have adopted California's regulations, often referred
6 to as the Section 177 ZEV states.

7 Lastly, when the Advanced Clean Cars program was
8 adopted, a new type of vehicle was emerging with the
9 release of the Chevrolet Volt plug-in hybrid. Since
10 plug-in hybrids were projected to play a significant role
11 in most manufacturer's compliance through 2025, the Board
12 wanted staff to review this new technology.

13 --o0o--

14 STAFF AIR POLLUTION SPECIALIST WONG: In 2011, as
15 the staff report for the Advanced Clean Cars rulemaking
16 was being released, just two models were available and
17 accounted for less than 10,000 new sales. Through the end
18 of calendar year 2016, nearly 300,000 ZEVs and plug-in
19 hybrids have been registered in California and in the
20 Section 177 ZEV states with nearly 30 different models on
21 the market.

22 --o0o--

23 STAFF AIR POLLUTION SPECIALIST WONG: What has
24 this meant for regulatory compliance? Shown in the blue
25 shaded area on the screen is the total number of ZEV

1 years and undercompliance in later years.

2 Let's take a minute to look at how these 2018
3 through 2025 requirements translate into the number of
4 vehicles we can expect from the regulation.

5 --o0o--

6 STAFF AIR POLLUTION SPECIALIST WONG: As
7 previously mentioned, In 2012 the project compliance
8 scenario for the new increased ZEV regulation was to
9 result in roughly 4 million ZEVs and plug-in hybrids
10 cumulatively by 2025 model year. Over the course of this
11 review, updated compliance scenarios reflect vehicle
12 technology advancements evident in the market, and
13 compliance with the regulation will now result in roughly
14 2 million vehicles cumulatively over the 2018 through 2025
15 time frame. For reference, this is about 8 percent of new
16 vehicle sales in 2025 model year. Staff also integrated
17 various regulatory flexibilities adopted by the Board, as
18 well as banked ZEV credits as shown on previous slides.

19 --o0o--

20 STAFF AIR POLLUTION SPECIALIST WONG: The
21 transformation of the light-duty fleet has begun, and a
22 growing number of manufacturers appear committed to
23 long-term electrification. Manufacturers are competing
24 with each other for PEV consumers by continually refining
25 the products they offer to suit consumer preferences.

1 Outside of California, ZEV markets are expanding in the
2 U.S. as well as globally, indicating that the industry is
3 gaining momentum.

4 --o0o--

5 STAFF AIR POLLUTION SPECIALIST WONG: This shift
6 has been enabled by technology costs continuing to come
7 down. Both fuel cell systems and battery costs have
8 fallen dramatically from to 2006 to 2015, with fuel cell
9 systems dropping nearly 60 percent and batteries over 70
10 percent. Costs for both technologies are expected to
11 continue to drop as volumes increase and the technology
12 improves. Staff anticipates that battery electric or fuel
13 cell technology will not reach cost parity with
14 conventional gasoline technology until sometime after
15 2025.

16 --o0o--

17 STAFF AIR POLLUTION SPECIALIST WONG: Falling
18 technology costs will facilitate an increasing vehicle
19 range in future models, which will help to sustain and
20 expand the ZEV market. Automakers acknowledge that
21 vehicle range can be a significant barrier to consumer
22 acceptance of these new vehicle technologies. As shown,
23 even among current plug-in electric vehicle drivers,
24 dissatisfaction with all-electric range declines as
25 vehicle range increases. Fortunately, trends in new ZEV

1 offerings are aligning with those consumer preferences.

2 --o0o--

3 STAFF AIR POLLUTION SPECIALIST WONG: This chart
4 shows the number of vehicle models offered in various
5 vehicle size and all-electric range combinations. In
6 model year 2011, the orange icon represents one plug-in
7 hybrid offered in the small car category with an
8 all-electric range of 30 to 40 miles. And the two blue
9 icons represent all-battery electric models, both with a
10 range of less than 100 miles.

11 In model year 2012 additional vehicles were
12 introduced, and the larger icon represents more
13 battery-electric vehicle models offered in the small car
14 category. While the market began in smaller vehicle
15 platforms where costs are lower, over time auto
16 manufacturers have continued to release new models. So
17 that today's market has expanded into more vehicle
18 segments with longer ranges.

19 Within the next five model years we expect over
20 70 models that will provide consumers with more choices
21 aligned with their purchase references. Larger battery
22 packs on vehicles also could help offset cold weather
23 losses and help expand choices in different markets
24 outside California.

25 These bars highlight the market share of new

1 vehicles sold within each of the vehicle classes. As you
2 can see, the small SUV and midsize car segments are the
3 two most popular classes, which are also where many of the
4 future new models are expected to be offered, many with
5 extended vehicle ranges beyond today's offerings. This
6 broadening of the ZEV technology across the most popular
7 platforms shows promise not only for California but also
8 for the Section 177 ZEV states.

9 --o0o--

10 STAFF AIR POLLUTION SPECIALIST WONG: Nine states
11 have adopted California's ZEV regulation. Sales of ZEVs
12 and plug-in hybrids in the Section 177 states still do lag
13 behind California's market. And the Board, anticipating
14 this jump in the requirement, adopted appropriate
15 flexibilities to help ease the regulatory burden.

16 In 2012, the Board extended the "travel"
17 provision for battery electric vehicles through 2017 model
18 year, a change which has in turn created healthy credit
19 banks for manufacturers heading into more stringent 2018
20 and subsequent model year requirements.

21 The Board also adopted an optional compliance
22 path as an important flexibility provision, which, if
23 taken, requires manufacturers to deliver battery electric
24 vehicles prior to 2018 model year in the Section 177
25 states. This optional compliance path also reduces

1 automaker requirements in the Section 177 states for
2 battery electric vehicles and plug-in hybrids through
3 2020; and allowed manufacturers to pool their credits
4 amongst the Section 177 states for BEVs and plug-in
5 hybrids to further reduce state-specific burdens.

6 --o0o--

7 STAFF AIR POLLUTION SPECIALIST WONG: In 2012,
8 the Board adopt policies that require intermediate volume
9 manufacturers, or IVMs, to begin electrifying their fleets
10 starting in 2018. These policies redefined many of the
11 mid-sized manufacturers as large volume manufacturers and
12 allowed the remaining IVMs to meet their 2018 through 2025
13 model year requirements exclusively with plug-in hybrids.
14 In addition to some flexibilities that were afforded to
15 the IVMs in 2012, the Board adopted additional
16 flexibilities in 2014, ensuring these manufacturers would
17 remain defined as this smaller category IVMs through 2025
18 model year and granted more time to comply with their ZEV
19 requirements.

20 Since the 2012 and 2014 rulemakings,
21 manufacturers confirmed various plans for full compliance
22 with the regulation as adopted and are pursuing both
23 plug-in hybrid and ZEV models, some recognizing it will be
24 almost impossible to meet their obligation exclusively
25 with plug-in hybrids. At the 2016 L.A. Auto Show, CEO of

1 Fuji Heavy Industries, which produces Subaru vehicles,
2 indicated these intentions towards electrification.

3 --o0o--

4 STAFF AIR POLLUTION SPECIALIST WONG: While staff
5 is recommending to maintain the current ZEV requirements
6 to provide regulatory stability, because important
7 provisions are sunseting at the same -- in the same time
8 frame. In the greenhouse gas program, two provisions
9 intended to support ZEVs are also scheduled to expire by
10 2025. Additionally, carpool lane access for ZEVs, funding
11 for hydrogen infrastructure, and federal tax credits for
12 plug-in vehicles will likely all expire before cost parity
13 of ZEVs with conventional gasoline technology is expected.
14 Staff will continue to monitor market trends so we can
15 bring the Board appropriate recommendations to continued
16 to support ZEVs through regulatory and nonregulatory
17 actions.

18 --o0o--

19 STAFF AIR POLLUTION SPECIALIST WONG: In 2012,
20 the Board strengthened the ZEV regulation, nearly tripling
21 the requirement for pure ZEVs in 2025 model year, and
22 shifting to a simpler annual increase in requirements.
23 Since then, the regulation is accelerating development of
24 ZEV technology toward commercialization, demonstrated by
25 the clear growth in the ZEV market, and over 70 unique ZEV

1 and plug-in hybrid models expected in the next five model
2 years.

3 Despite these successes, it is widely recognized
4 that the ZEV and plug-in hybrid market is still in the
5 early stages of its development. Given the remaining and
6 still significant barriers regulatory stability of the
7 2018 through 2025 model year standards can help ensure a
8 continued path of increasing but achievable ZEV volumes.
9 Therefore, staff is recommending to maintain the current
10 ZEV requirements, as adopted in 2012, in California, the
11 Section 177 states, and for intermediate volume
12 manufacturers.

13 --o0o--

14 STAFF AIR POLLUTION SPECIALIST WONG: When the
15 strengthened ZEV regulation was adopted in 2012, it
16 included a new focus on plug-in hybrids. In fact, we
17 expect over two-thirds of the vehicles resulting from
18 compliance with the regulation to be plug-in hybrids.

19 Little was known at the time about how these
20 types of vehicles were being driven, and their actual
21 environmental benefits, because there were so few
22 available to consumers in 2012. When these amendments
23 were approved, the Board directed staff to study in-use
24 data for plug-in hybrids, such as how they're driven and
25 charged, in addition to criteria pollutant and GHG

1 hybrids - hybrids that are pure electric at low vehicle
2 speeds but blend a mix of gasoline engine and electric
3 power at higher speeds and accelerations. The first bars
4 on the graph indicate the start emissions from three
5 different plug-in hybrids during the normal emissions test
6 cycle, and all of them readily met our existing standards.

7 Next, staff drove one of the vehicles on-road to
8 determine the types of driving maneuvers that caused the
9 engines to first start and then recreated those events
10 back in the laboratory. Under these other types of
11 driving conditions, start emissions were found to be about
12 2 to 5 times higher. For future plug-in hybrids, further
13 refinements and vehicle design changes are needed to
14 minimize emissions in real-world driving conditions.

15 --o0o--

16 STAFF AIR POLLUTION SPECIALIST WONG: Emissions
17 will depend on how these vehicles are charged. By design,
18 plug-in hybrids are intended to be flexible, which means
19 it is up to their drivers to charge or not. While most
20 consumers are satisfied with their plug-in hybrids, an
21 analysis of trip data shows many drivers do charge
22 routinely. These two comments from current plug-in hybrid
23 drivers highlight how charging behavior can vary based on
24 purchase motivation, vehicles battery capacity,
25 infrastructure availability, and energy prices. How these

1 factors change in the future will matter for how we
2 determine the new GHG clean air benefits of plug-in
3 hybrids.

4 --o0o--

5 STAFF AIR POLLUTION SPECIALIST WONG:

6 Specifically, we examined various scenarios
7 across a broad range of eVMT assumptions and found GHG
8 emissions to be highly variable, increasing the light-duty
9 vehicle fleet's GHG contribution up to 60 percent with
10 high plug-in hybrid penetrations in the fleet. Although
11 not shown here, NOx emissions follow a similar trend.
12 This is due to the highly user-dependent nature of plug-in
13 hybrids. If, say, charging infrastructure is not
14 available for a plug-in hybrid user to maximize their
15 eVMT, the GHG benefit of their vehicle will decrease.

16 --o0o--

17 STAFF AIR POLLUTION SPECIALIST WONG: Therefore,
18 based on the analysis I described, staff has concluded
19 that the regulation as adopted in 2012 appropriately
20 credits plug-in hybrids and allows for manufacturers to
21 comply with this technology through 2025 model year, as
22 staff expects over two-thirds of vehicles to be plug-in
23 hybrids cumulative according to its latest compliance
24 scenarios.

25 Plug-in hybrids will still play a significant

1 role in transforming the light-duty sector, but at this
2 time, no additional regulatory credit is needed.

3 --o0o--

4 STAFF AIR POLLUTION SPECIALIST WONG: Let's take
5 a minute to review the comments we received since
6 releasing our midterm review report. One issue brought up
7 by dealers in the northeast and Oregon was a concern over
8 a provision removed during the 2012 amendments that gives
9 additional credits for vehicles that are "placed in
10 service."

11 In 2018 and beyond, battery electric vehicles
12 will earn credits upon delivery for sale, meaning when
13 dealers take delivery of the vehicles on to their lots.
14 Dealers are concerned that their lots will be inundated
15 with ZEVs and plug-in hybrids, and manufacturers will not
16 help support the sale of these vehicles. Thus plan staff
17 to monitor this issue and consider regulatory changes as
18 appropriate.

19 The Board also received comments from the auto
20 industry which were in line with those received during the
21 midterm review process, asking for more plug-in hybrids
22 allowed to meet their requirement, reduction in the
23 requirements for the Section 177 states, and greater
24 support for complementary policies.

25 --o0o--

1 STAFF AIR POLLUTION SPECIALIST WONG: During the
2 course of the review several stakeholders and Board
3 members asked staff to consider various options to the ZEV
4 requirements before the 2025 time frame. Here are three
5 options that could be investigated for the 2022 through
6 2025 model year.

7 One, increasing the stringency of the regulation
8 with a specific focus on pure ZEVs.

9 Two, would be to require a greater all-electric
10 functionality to qualify as a plug-in hybrid.

11 And, lastly, restrictions on the use of purchased
12 or banked ZEV credits such as having credits expire,
13 depreciate with time, or be restricted in what portion of
14 the annual obligation that could be satisfied with
15 credits.

16 However, full consideration of these options have
17 not been vetted through the process and are not
18 recommended for these years.

19 --o0o--

20 STAFF AIR POLLUTION SPECIALIST WONG: Our
21 recommendation to stay the course achieves a balance
22 because there are still significant barriers to increasing
23 ZEV sales. The 2016 California ZEV Action Plan summarizes
24 an extensive list of complementary policies. In addition,
25 some new measures are launching to address two of the more

1 STAFF AIR POLLUTION SPECIALIST WONG: We will now
2 conclude with what we think should be our next steps.
3 Following this midterm review, we need to look at the road
4 ahead, carefully studying how the transportation sector is
5 changing, and consider what new policies and regulations
6 California needs in 2026 and beyond.

7 --o0o--

8 STAFF AIR POLLUTION SPECIALIST WONG: As we begin
9 the development of new regulations, we need to understand
10 the gap in projected emissions from our current programs
11 relative to the state's targets.

12 The graph on the left represents total NOx
13 emissions in the South Coast Air Basin where over 85
14 percent arise from transportation sectors today. The
15 emission levels to reach attainment for 2031 are clearly
16 shown on the bottom. And the graph on the right
17 represents statewide GHG emissions for on-road cars and
18 trucks. Current programs provide important reductions,
19 but the gap is still significant when the SB 322030
20 requirements are taken into account, as well as the
21 Executive Order 2050 targets.

22 It is clear, additional light-duty vehicle
23 programs will be needed to provide further reductions in
24 both criteria and greenhouse gas emissions.

25 --o0o--

1 STAFF AIR POLLUTION SPECIALIST WONG: To assess
2 how to fill this gap, the Mobile Source Strategy describes
3 updated scenarios showing actions that can help the state
4 meet our emissions targets.

5 This graphic shows a potential technology rollout
6 for the light-duty vehicle fleet that would put us on a
7 path to achieving the greenhouse gas, air quality, and
8 petroleum reduction goals. In this scenario, electric
9 vehicles move well beyond the current ZEV regulation,
10 scaling up to 100 percent of all new vehicle sales by
11 2050, with 4.3 million ZEVs and plug-in hybrids on the
12 road by 2030. Though this scenario is only a top-down
13 analysis, it does show that there needs to be a
14 significant shift towards electrification to ensure
15 California's long-term goals are being met.

16 --o0o--

17 STAFF AIR POLLUTION SPECIALIST WONG: In addition
18 to our own analysis and research, staff will carefully
19 evaluate relevant external research and maintaining
20 continued dialogue with stakeholders to help guide the
21 2026 and beyond policy questions. Several recent studies
22 have been released that we are beginning to review, but
23 there will be many more. Although staff have not endorsed
24 or critiqued any of these studies at this point, they are
25 shown here to emphasize how ARB relies on science, data,

1 and stakeholder perspectives in developing our
2 regulations.

3 For example, the American Lung Association study
4 focused on monetizing the public health and climate
5 benefits from a large transformation to electric vehicles
6 in California and the Section 177 states.

7 The Environmental Defense Fund and International
8 Council on Clean Transportation studies both conducted
9 technology and cost feasibility analyses of achieving more
10 greenhouse gas and fuel reduction benefits by 2030. And
11 the Indiana University study conducted a macroeconomic
12 analysis of vehicle standards showing potential positive
13 GDP and job impacts.

14 --o0o--

15 STAFF AIR POLLUTION SPECIALIST WONG: To move
16 forward and achieve the large emissions reductions that
17 are needed from the transportation sector in 2026 and
18 beyond, we must think outside the box in developing new
19 regulations. This slide rep -- this slide presents
20 examples of the kinds of issues we will consider.

21 For example, in the early years of the new
22 program, should fuels be addressed differently in the
23 regulation? The existing ARB GHG fleet regulation
24 includes an upstream emissions factor for ZEVs. Should
25 this be continued? Separately, is it appropriate to grant

1 ZEV regulation credits for automaker investments in
2 fueling infrastructure?

3 More broadly, a core question involves the
4 structure of the varying regulations within the Advanced
5 Clean Cars program. Specifically, how should the ZEV
6 regulation change as the fleet emission standards become
7 increasingly more stringent to inherently encourage
8 advanced technology?

9 Additionally, should the vehicle regulations
10 address the changing transportation sector to include car
11 sharing, ride hailing, and connected-autonomous vehicles?
12 If so, what is the role of the regulation in combination
13 with these other policies?

14 Finally, in the process for 2026, we believe we
15 can best consider these concerns that the industry and
16 others have highlighted in the context of reopening of the
17 federal midterm review. It's just a question of where to
18 spend our time and resources.

19 --o0o--

20 STAFF AIR POLLUTION SPECIALIST WONG: Although we
21 obviously have not determined the exact path we can bring
22 to you for the regulations beyond to 2025, there are some
23 guiding principles that we hope to follow as we prepare a
24 regulatory proposal over the next few years. We need to
25 seek a structure that maximizes the emissions reductions

1 long term but in a cost-effective way, and that encourages
2 innovation by automakers and suppliers. We need to
3 utilize technology forcing requirements but only where
4 needed to address electric vehicle markets and investment
5 barriers. We need to learn from innovative policies being
6 implemented in Europe, Asia, and elsewhere. And we need
7 to follow -- we need to carefully consider a transition
8 from the end of the current program into the new program.

9 We will need to develop new regulations and
10 partnerships with the Section 177 states, NESCAUM, the
11 U.S. EPA, Canada, and others.

12 --o0o--

13 STAFF AIR POLLUTION SPECIALIST WONG: This
14 concludes our California midterm review. And with that,
15 staff asks the Board to concur with the recommendations
16 presented today and described in the proposed resolution.

17 The recommendations are:

18 One, the adopted 2022 through 2025 GHG standards
19 are appropriate and we recommend no change.

20 Two, the adopted one milligram per mile PM
21 standard is feasible but new limits may be needed to
22 ensure low emissions in use.

23 And, three, the current ZEV requirements can be
24 met by the manufacturers and are appropriate to help
25 further market development. Staying the course balances

1 significant process -- progress and remaining barriers.

2 Fourth, the last recommendation requests the
3 Board's concurrence that we begin the process of
4 developing new standards for 2026 model year and beyond
5 and to bring those standards to the Board for
6 consideration as soon as appropriate but no later than the
7 2020 model year.

8 This concludes my presentation.

9 CHAIR NICHOLS: Thank you. We're also joined
10 today by representatives from several of the states that
11 follow California's Advanced Clean Cars Program and that
12 have adopted our program. So I would like to call them
13 forward at this time.

14 We have three, starting with Rob Klee from
15 Connecticut's Department of Energy and Environmental
16 Protection.

17 Commissioner.

18 MR. KLEE: Thank you so much, Chair Nichols and
19 members of the Board. I believe that we're loading up our
20 slide show.

21 (Thereupon an overhead presentation was
22 Presented as follows.)

23 MR. KLEE: Thank you so much for the opportunity
24 to be here this morning.

25 And we can go to the next slide, I think.

1 --o0o--

2 MR. KLEE: Connecticut is proud to be among the
3 states that have been implementing the Advanced Clean Cars
4 Program, and I'm pleased to be here with my Section 177
5 colleagues in strong support of the staff's
6 recommendations.

7 Connecticut is a long-time leader on climate
8 change. We've been developing and supporting
9 forward-thinking climate-related policies and legislation
10 since the early 2000s. We've been participating in
11 groundbreaking regional initiatives like the Regional
12 Greenhouse Gas initiative, or RGGI, because we know that
13 addressing climate change in a meaningful way presents
14 Connecticut residences and our businesses with the
15 opportunity to create a healthy and sustainable
16 environment, a robust economy, and a high quality of life
17 for current and future generations. Therefore we are
18 forging ahead in all areas to meet our aggressive
19 greenhouse gas reduction goals. But transportation
20 accounts for 37 percent of greenhouse gases in Connecticut
21 and 43 percent across new England. Without the ZEV
22 requirements, we simply would not be able to hit our
23 targets for this sector.

24 Next slide please.

25 --o0o--

1 MR. KLEE: The Northeast states have long been
2 leaders in environmental protection, even as our economies
3 have grown over the years. Whether ranked by emissions
4 per capita, total share of CO2 reduced since 1990,
5 statewide efficiency or other measures, it's not a
6 coincidence that the states have opted into this program
7 under Section 177 consistently rank among the very best
8 performers in the nation.

9 This chart as one example shows CO2 emissions per
10 unit of economic output for every state in the U.S., with
11 ZEV Program states highlighted in green. And note that
12 the folks here today did a little better than California.

13 (Laughter.)

14 MR. KLEE: Next slide please.

15 --o0o--

16 MR. KLEE: All of our MOU states have long-term
17 2050 goals that match California's. Many, including
18 Connecticut, are in the process of identifying or refining
19 interim targets as well. We're doing so at the direction
20 of my governor, Governor Dannel P. Malloy, who through the
21 Governors' Council on Climate Change, which I chair and is
22 made up of key state agencies, businesses, academic
23 institutions, and nonprofits, and we've been tasked with
24 setting targets for 2030 and 2040. Next slide.

25 MR. KLEE: Many of our governors signed an MOU in

1 2013 that -- there are eight states. They are California,
2 Connecticut, Massachusetts, Maryland, New York, Oregon,
3 Rhode Island, and Vermont. These governors set a
4 collective target of having 3.3 million ZEVs on our roads
5 by 2025. They further committed to establish a
6 multi-state zero emission vehicle task force to develop
7 and implement a comprehensive ZEV Action Plan designed to
8 achieve our states' electrification goals.

9 The task force released this multi-state ZEV
10 Action Plan in May of 2014 that identifies both the
11 collaborative actions and individual state actions needed
12 to address the full range of barriers to widespread
13 adoption of electric vehicles, such as incentives,
14 infrastructure development, fleets, workplace charging,
15 and consumer education and outreach.

16 Next slide.

17 --o0o--

18 MR. KLEE: At the time our governor signed the
19 eight-state MOU, this matrix that I'm showing you today
20 would have looked much different. Nearly all of the
21 policies shown here have been put in place in the past few
22 years in anticipation of the 2018 ZEV requirements.
23 Please note especially the top two lines.

24 Since the MOU our states have been meeting
25 regularly with Air Resources Board staff and all the

1 automakers in a process we've been calling the New
2 Collaboration for ZEV Success. Early on in those
3 conversations, the automakers identified consumer
4 incentives and infrastructure as the two most important
5 policies to support near-term ZEV deployments. As this
6 chart shows, our states have stepped up and we are ready.

7 And, lastly, I'd like to announce one correction
8 to this chart. That asterisk under New York for consumer
9 vehicle incentives, you can change that to a check mark
10 because Governor Cuomo announced just this past Tuesday a
11 \$70 million ZEV incentive rebate program that's up to
12 \$2,000 per vehicle in New York.

13 Next slide.

14 --o0o--

15 MR. KLEE: And this is my last one. Just to say,
16 some of the recent highlights that we've been doing in
17 Connecticut to support ZEV's deployment.

18 We've added \$3.7 million for funding for our
19 rebate in Connecticut called the Cheaper Program.

20 We've recognized this year and in past years our
21 EVs of the year, and the Chevy Volt was the winner in
22 2016.

23 We also honor our dealerships for their efforts
24 to deploy ZEVs. Stevens Ford in Milford was our winner
25 this year.

1 We provide grants for up to a hundred percent for
2 public charging stations and incentives for others to
3 deploy at workplace chargers. And we've ended range
4 anxiety in Connecticut. You're no further than 20 minutes
5 or 20 miles from a charge anywhere in the state of
6 Connecticut.

7 We have -- our Governor's Council on Climate
8 Change is focused with a laser focus on transportation,
9 looking at vehicle miles traveled. ZEV implementation
10 transit systems at high mileage users. Our comprehensive
11 energy strategy again highlights transportation and is
12 exploring the role the utilities play, taking some
13 learning from the things that have been going on here in
14 California.

15 So with that I'd like to pass the podium to my
16 neighbor to the north, Christine Kirby from Massachusetts.

17 CHAIR NICHOLS: Oh, thanks. We'll hold our
18 questions then till the three of you have all finished
19 your presentations.

20 BOARD MEMBER SHERRIFFS: But just in -- one of
21 the things that you said. It's a goal or everybody is
22 within 20 minutes of a charging station?

23 MR. KLEE: Currently everyone is within 20
24 minutes from a charging station in Connecticut.

25 BOARD MEMBER SHERRIFFS: Congratulations.

1 MR. KLEE: We've deployed that many stations.
2 We're a small state.

3 (Laughter.)

4 BOARD MEMBER SHERRIFFS: Don't apologize. Don't
5 apologize.

6 (Laughter.)

7 BOARD MEMBER SHERRIFFS: Well done.

8 MR. KLEE: Thank you.

9 Christine Kirby is next.

10 CHAIR NICHOLS: I assume you mean a level 2 or
11 higher, not just a plot, right?

12 Okay.

13 MS. KIRBY: Good morning, Chair Nichols and
14 members of the Board. I'm happy to be here, and thank you
15 for the opportunity.

16 Massachusetts is, like Connecticut, happy to be
17 among the states that have implemented the Advanced Clean
18 Cars program. And I'm pleased to be here with both New
19 York and Connecticut in strong support of the staff's
20 recommendations.

21 You heard from Commissioner Klee on the 177 state
22 greenhouse gas reduction goals. And in Massachusetts we
23 updated our clean energy and climate plan at the end of
24 2015. And we will be finalizing new rules in August in
25 response to Governor Baker's executive order on climate

1 change to ensure our 2020 goal is met.

2 Without the California program, we will not
3 achieve our near- or long-term goals; and those are our
4 greenhouse gas reduction goals.

5 The rest of my presentation will be focused on
6 the ZEV requirements.

7 Next slide please.

8 --o0o--

9 MS. KIRBY: A key theme you will hear today is
10 whether the 177 states are ready for ZEVs in doing our
11 part. The answer is unequivocally yes. There is good
12 news in our states, as shown by this chart. Sales are up.
13 In December of 2016, Massachusetts saw the highest number
14 of rebates under our rebate program than any other month
15 since the program started in 2014. That's good news.

16 And the 177 states in 2016 saw an increase of 60
17 percent in total PEV registrations, which represents a 50
18 percent increase in market share in the Northeast.

19 Along with this, there are expanded numbers of
20 new models, including three models with all-wheel drive
21 capability. And that's something that we've heard
22 continually in the northeast, about the need to have
23 all-wheel drive vehicles. This also helped our sales.

24 Next slide please.

25 --o0o--

1 MS. KIRBY: More good news. Our states continue
2 to add charging stations in anticipation of a major
3 increase in vehicles beginning in the 2018 model year when
4 "travel" goes away. As many of you know, "travel" has
5 been in place, and we are anticipating that going away in
6 2018.

7 This chart shows that infrastructure is much
8 farther along in our states than it was in California,
9 when California ZEV requirements took effect in California
10 in 2012. Of interest is why we have -- still have fewer
11 stations in terms of absolute numbers. We actually have
12 doubled the capacity relative to the number of PEVs
13 currently on the road in our states. So one outlook for
14 every 10 PEVs compared to one outlook for 20 in
15 California.

16 Next slide please.

17 --o0o--

18 MS. KIRBY: Now, for the not-so-good news.
19 Because of the travel provision, manufacturers have faced
20 no binding sales requirements in our states -- in the
21 Northeast states; and it's not surprising that they have
22 not made meaningful effort to promote their vehicles in
23 our region. Or in many cases to even make them available
24 for a test drive.

25 Of five of the six OEMs, here's some examples:

1 requirements and the other parts of the Advanced Clean
2 Cars program. And I would like to make the following
3 seven points.

4 Number 1, banked credits mean industry can comply
5 through 2021 with no increase in market share. So that is
6 very important.

7 Number 2, scheduling a review too soon
8 perpetuates the incentive to fail. We need to make more
9 time to make the program work, particularly in the 177
10 states given "travel."

11 Number 3, technology is proven and costs continue
12 to fall.

13 And 4, most OEMs have not yet tried to build the
14 ZEV markets in the Northeast or in California to the
15 extent that's necessary.

16 Number 5, we need to focus on 2026 and beyond to
17 achieve the long-term greenhouse gas reductions. And
18 electrification of the transportation sector is essential.
19 We know this in Massachusetts and we know you know that
20 here as well.

21 A couple of comments on the midterm review. This
22 occurred five years after the initial 2012 commercial
23 volumes in California took effect. We need five years in
24 the Northeast as well. So we do not need another midterm
25 review until at least 2023. We need to build the market

1 post the travel provision going away.

2 Next slide please.

3 --o0o--

4 MS. KIRBY: Similar to Connecticut, I'd like to
5 provide some highlights of what's going on in
6 Massachusetts. The first is we enacted a piece of
7 legislation at the end of 2016.

8 Couple of highlights: The utilities can now
9 submit proposals for cost recovery of EVSE in
10 Massachusetts. And two utilities have done that. They've
11 filed with our Department of Public Utilities, which is
12 great news.

13 And building codes can include requirements for
14 EVSE, which is now under discussion in Massachusetts.

15 In 2016, we added \$12 million to our EV rebate
16 program. This program is called the Massachusetts Offers
17 Rebates for Electric Vehicles, or MOR EV. This program
18 began in 2014. We've had great success with it.

19 We also implement two additional incentive
20 programs under the banner MasseVIP. The first is to
21 public entities, both the state fleet and municipalities.
22 So far we have funded 208 vehicles and 69 charging
23 stations under that program.

24 Also, we have a separate piece of MasseVIP where
25 we fund workplace charging. We've identified that as an

1 important piece to provide consumers with certainty that
2 they can charge. So far we've funded 388 units and 618
3 charging ports in Massachusetts. It's a very, very
4 popular program.

5 And finally, we've been partnering with Plug In
6 America - I know they're here today - on the first
7 statewide Mass Drive Clean program. We've hosted a number
8 of EV ride and drive events. So that's been very
9 successful.

10 And we've shown that people that ride in an EV
11 are more likely to buy an electric vehicle after they get
12 into one of these vehicles. So that's been exciting.

13 So to conclude, on behalf of the Baker-Polito
14 Administration, thank you for the opportunity to be here
15 today, and we look forward to working with California on
16 these issues.

17 Thank you.

18 CHAIR NICHOLS: Thank you.

19 MS. KIRBY: And I will now turn it over to my
20 colleague from New York, Steve Flynn.

21 CHAIR NICHOLS: Good morning

22 MR. FLYNN: Good morning, Chair Nichols, Board.
23 Thanks for having us here today. Thanks for providing the
24 opportunity for us to speak.

25 I'm Steve Flynn. I'm the Director of the

1 Division of Air Resources at New York State's Department
2 of Environmental Conservation. I'm also a somewhat
3 familiar face, appearing here over the history of time.

4 Commission Klee stole some of my thunder. Yes,
5 indeed, we just this week announced in New York a \$70
6 million incentive program for electric vehicles. It's a
7 point-of-sale rebate program. So it reduces the
8 out-of-pocket expense for the buyers at the time.

9 It also includes a significant effort towards
10 additional outreach, so that we have an educated consumer
11 base. That follows closely on the heels just a couple
12 weeks ago of announcements for an additional 450 workplace
13 and public charging stations around the state.

14 And another important point I wanted to make is
15 relative to staff's presentation this morning on -- in
16 particular New York dealers have expressed concerns about
17 the distribution of credits and the timing of credits.
18 And we appreciate staff's recommendation to take a hard
19 look at this and to monitor this over time to see if there
20 is a problem. And we will most certainly be working with
21 staff on that and helping to understand the issue and
22 making recommendations if necessary.

23 Can I have the next slide please.

24 --o0o--

25 MR. FLYNN: Sometimes going forward requires us

1 to look backwards. And we have indeed come a long way
2 together. And the emphasis here is on "together."
3 California and the Section 177 states over time has -- the
4 program has been a partnership. Certainly California has
5 the leadership authority under Section 209 of the Clean
6 Air Act. Properly so. The issues here in California
7 predate federal efforts and have been severe, and
8 California is staffed and capable and equipped to address
9 those issues, as we've seen time and again with the work
10 of staff, as we saw at the beginning of today's -- with
11 the presentation to staff for their excellent efforts on
12 the Volkswagen case.

13 Section 177 allows other states to adopt the
14 program provided certain tests are met. We've done so.
15 And we have done so from the beginning. Mass and New York
16 were at the very beginning. We've been shoulder to
17 shoulder with California all along the way. It's not
18 always in full agreement, but nonetheless working closely.
19 We work closely with staff as these programs are developed
20 as staff -- we come to the Board to speak to you, to tell
21 you what we think and how these things affect us.

22 We also support you in Washington. When things
23 like waivers are up, we weigh in on those waivers.

24 We also support you in court. The Mass versus
25 EPA greenhouse gas decision certainly was a foundational.

1 The Green Mountain Chrysler-Plymouth case in Vermont on
2 the first round of greenhouse gas standards was pivotal.

3 And so we're here. We're with you. We believe
4 in what we're doing. We believe in what you're doing.
5 But some of that is also the flexibility that is necessary
6 going forward. Staff spoke of the optional compliance
7 plan and the travel provisions. We understand that. We
8 understand that this technological development sometimes
9 needs to germinate and mature in one place before it can
10 spread widely. We've supported those provisions. We
11 helped develop the optional compliance plans through
12 negotiations with staff and manufacturers.

13 California clearly has the lead, but the Section
14 177 states bring along market breadth and understanding to
15 really stabilize the results and improve the overall
16 results of what it is you're trying to do.

17 Can I have the next slide please.

18 --o0o--

19 MR. FLYNN: Why? Well, talking about greenhouse
20 gases. 177 states are all pretty much coastal, just like
21 California is. And certainly sea level rise is a highly
22 visible and very problematic issue associated with climate
23 change. My office is in Albany. I'm 140 miles from the
24 Statue of liberty, and yet I can watch the tide in the
25 Hudson River estuary out of my window. It's a big

1 problem. It's not just skirting the edges, and it's
2 pervasive.

3 Motor vehicles are the biggest part of our
4 greenhouse gas inventory in the Northeast. In fact,
5 they're also the greatest part of our criteria pollutant
6 inventory.

7 VMT continues to grow. We are controlling
8 stationary sources. We have cap-and-trade programs for
9 power plants for greenhouse gases. We're investing those
10 proceeds into energy efficiency.

11 We're doing what we can where we can. We need
12 the cars too.

13 But it isn't just greenhouse gases. We're also
14 nonattainment in metro New York area for ozone. Just like
15 with greenhouse gases, the motor vehicle sector is our
16 largest single sector. We can't get to attainment. We
17 can't get to the public health we're looking for without
18 the controls. So the California program is important as
19 part of our SIP as well.

20 Next slide please.

21 --o0o--

22 MR. FLYNN: But a key piece of this is that it's
23 working. From the beginning, the program -- very
24 beginning -- it has been identified as technology forcing.
25 And it has been. You know, the original standards when

1 someone put a LEV standard up on the board, everyone
2 cringed and said, "How will we ever get there?" Well, we
3 have. But you have, we have, the manufacturers have; and
4 don't lose site of that.

5 There's been a great deal of development here
6 and -- you know, I look at this slide and I recall that
7 when the Toyota Prius came out -- generation 2 Prius came
8 out in 2004, Toyota lost money on every one they sold.
9 They never said how much. I can't blame them. But since
10 then it's evolved. They've learned. They've matured the
11 product. They've refined the product. They've found ways
12 to contain the cost. It is my belief that it is now a
13 profitable automobile. And more than that, it's a
14 flagship for them. The technology is advancing. The
15 program is working. There are 300-mile BEVs that are out
16 there now. We didn't -- just didn't have that recently.

17 And some of these technologies are expan -- some
18 of the advancements that have occurred because of these
19 vehicles have expanded into other markets. We talked
20 about the 48-volt start-stop. I don't think we'd have
21 been there without the technology forcing elements of this
22 program. Some of this stuff would have happened, to be
23 sure. But I don't think any of us believe it would have
24 happened in the time frame that we're looking at now. And
25 time is important.

1 parameters. They're not just doing it; they're competing
2 on it.

3 We're now at an inflection point. The inflection
4 point is, as Christine described, the end of travel and
5 the bringing forward of the requirement in the 177 states.
6 We support the staff's recommendation to proceed with the
7 program. Let us move a foot. Let us keep an eye on it
8 but move forward.

9 Certainly it's a significant obligation for
10 manufacturers. But - and this is an important "but" -
11 manufacturers, states, consumers, infrastructure providers
12 all need certainty, a little bit of certainty. And as
13 staff said, push it out there a few years before we get
14 back at work at it. And Christine said this too. Let's
15 leave it in place for a while. Give us all some
16 certainty. And I think that's what we're asking for the
17 Board.

18 So in closing - just a couple of comments -
19 again, we support -- we stand here today to support the
20 staff recommendation as it -- as California seeks to
21 reduce the environmental impact of motor vehicle
22 technology, and do so in a progressive but achievable
23 manner.

24 We're committed to continue to work with the
25 manufacturers to address the obstacles and to help educate

1 consumers. We will work with infrastructure providers and
2 other stakeholders to ensure that consumers can experience
3 a seamless transition to the cleanest technology out
4 there. And it's important, folks. Tomorrow's environment
5 is counting on what happens here today.

6 Thanks.

7 CHAIR NICHOLS: Thank you very much. Thanks to
8 the three of you for traveling out here and spending the
9 time with us. And I assume that you're going to be
10 available throughout this discussion. And if possible, it
11 would be helpful to have you also present during the
12 discussion on the Volkswagen ZEV investment plan; because
13 while we're dealing only with the California plan here
14 today, there is a national plan that they've prepared as
15 well. And it would be interesting to get your comments on
16 how you see that helping us all out.

17 So thank you.

18 We do have two other state representatives with
19 us who were not part of this presentation. One is our
20 neighbor from Oregon, Leah Feldon. And then we'll also
21 hear from NESCAUM, which represents a whole group of
22 states.

23 So let's start with Leah please.

24 Welcome.

25 MS. FELDON: Good morning, Chair Nichols and

1 members of the Board. My name is Leah Feldon, and I'm the
2 Deputy Director of the Oregon Department of Environmental
3 Quality.

4 Thank you for allowing me the opportunity to
5 comment to the Board today. I'm very pleased to be here.
6 And I do want to briefly acknowledge my staff with me here
7 today, Dave Nordberg. Dave is our transportation program
8 coordinator, or better known as our LEV-ZEV expert.

9 On behalf of the Oregon Department of
10 Environmental Quality, I want to commend auto
11 manufacturers for the strong progress they've made meeting
12 future greenhouse gas and zero-emission vehicle
13 requirements. Since the adoption of the 2012 ZEV and LEV
14 III rules, the auto industry has made significant strides
15 in reducing greenhouse gases from conventional light-duty
16 vehicles and dramatic advances in emission-free vehicles.

17 We also want to recognize the substantial effort
18 the California Air Resources Board devoted to this midterm
19 review. We admire the breadth of this study, and conclude
20 it is appropriate to retain the current requirements for
21 the 2022 to 2025 model year vehicles.

22 Zero-emission vehicles are essential to meeting
23 Oregon's long-term greenhouse gas emission targets for
24 2050. Relaxation of the LEV III or ZEV rules would reward
25 manufacturers who made the least effort to prepare for

1 future requirements and do a disservice to manufacturers
2 who made the greatest effort to develop and market
3 compelling low-emission products.

4 We agree with the ARB staff that the auto
5 industry's progress raises the question whether the
6 requirements for 2022 should be strengthened. We also
7 want to emphasize the critical importance of regulatory
8 certainty, and therefore we believe it is appropriate to
9 continue the existing requirements unchanged.

10 However, conventional vehicles with even lower
11 greenhouse gas emissions are necessary for a secure
12 future, as are much larger numbers of ZEVs. And as we
13 heard in presentations today, the technology costs to
14 produce said vehicles is going down. To meet the imminent
15 need to future reduce greenhouse gas emissions, we urge
16 you to continue your pioneering work by developing strong
17 new standards for the period following 2025.

18 Oregon thanks you for all of your work to date
19 and future work combating greenhouse gas emissions to
20 protect public health and our environment.

21 Thank you very much for your consideration.

22 CHAIR NICHOLS: Thank you. We also admire what
23 Oregon has done to promote the whole market for EVs
24 through your Drive Oregon program. And I don't know if
25 you were prepared to comment. But I saw something the

1 other day since I subscribe to your emails about a
2 transformation in the program. Do you want to say a word
3 or two about what you're up to there. Or if you don't
4 want to, you don't have to.

5 MS. FELDON: Chair Nichols, members of the Board.
6 I don't think we're prepared to talk about the Drive
7 Oregon program at this time.

8 CHAIR NICHOLS: All right. That's okay.

9 MS. FELDON: But I would be happy to get back
10 with you an some information.

11 CHAIR NICHOLS: Well, we'll talk later. Thank
12 you.

13 MS. FELDON: Thank you very much.

14 CHAIR NICHOLS: Thank you.

15 Matt Solomon from NESCAUM.

16 Welcome, Matt.

17 MR. SOLOMON: Thank you very much. Good morning,
18 Chair Nichols, members of the Board. Appreciate the
19 opportunity to be here. You've heard a lot from the 177
20 states, so I'm going to try to keep this brief.

21 I think we've shown our states have done
22 everything that they can do to prepare the market to get
23 ready for these cars. But we can't build the market on
24 our own. It is time for the automakers to step up. We
25 need them to come into the market, not just with product,

1 but with the earnest and energetic marketing effort that
2 they make with vehicles that they actually want to sell.
3 Thus far they have not made the effort to build ZEV
4 markets in the northeast because they haven't had to.
5 They haven't had to because of the "travel" provision.
6 Therefore we strongly agree with staff's recommendations
7 and we hope you will too.

8 Thanks very much.

9 CHAIR NICHOLS: Okay. Thanks.

10 Next we'll turn to Henry Hogo from the South
11 Coast AQMD.

12 Good morning, Mr. Hogo.

13 MR. HOGO: Good morning, Chairman Nichols and
14 members of the Board. I'm Henry Hogo, Assistant Deputy
15 Executive Officer at the South Coast Air Quality
16 Management District.

17 I'm pleased to be here today to provide the South
18 Coast District's staff support of the staff
19 recommendation. We strongly believe that these standards
20 should be maintained as determined by the midterm review
21 for the greenhouse gas standard. We certainly support the
22 1 milligram standard. In fact, at the 2016 AQMP that you
23 approved yesterday - and I want to thank you for that -
24 shows that light-duty vehicles actually are the largest
25 source of directly emitted PM in our basin from mobile

1 sources. It's the fourth highest contributor. So we
2 strongly support that. And we strongly support the
3 zero-emission technology.

4 Locally we're going to continue to encourage
5 deployment of zero-emission vehicles, especially through
6 the Enhanced Fleet Modernization Program. And we look
7 forward to working with you on the post 2026 model year
8 standards and looking to strengthen that moving toward
9 more zero-emission vehicles.

10 Thank you again for the opportunity to speak
11 today.

12 CHAIR NICHOLS: Thank you.

13 We really do have a who's who of everybody in the
14 ZEV world here today.

15 So move next to John Bozzella from the
16 Association of Global Automakers.

17 MR. BOZZELLA: Thank you, Chair Nichols, members
18 of the Board. I'm John Bozzella, President and CEO of
19 Global Automakers.

20 Our companies sell 56 percent of the cars and
21 trucks purchased here in California, most of which are
22 made in the U.S. We employ over 10,000 Californians at 79
23 facilities, including 18 R&D centers and three North
24 America headquarters.

25 You'd think given the heated rhetoric here in

1 California and in Washington over cars, there's much that
2 divides us. Not so. We agree that we need to continue to
3 reduce greenhouse gas emissions and improve fuel economy.
4 We agree that developing advanced technologies and
5 consumer acceptance and demand for those technologies are
6 central to the achievement of our goals. We agree we
7 should be making decisions using the latest science and
8 data. We also agree that we must work together. And
9 fundamentally we agree that there is a more effective and
10 efficient way forward than regulatory programs that are
11 inconsistent and require different compliance paths with
12 no added benefit to our consumers or the environment.

13 When EPA prematurely ended its part of the
14 midterm review, we lost an important part of the
15 discussion, perhaps the most important part: making sure
16 we ended up with a fully aligned national program that
17 balances innovation, compliance, and consumer needs and
18 wants. Last week's decision to reopen the midterm review
19 without prejudging the outcome is fully consistent with
20 the commitments ARB, EPA, NHTSA, and the industry agreed
21 to back in 2012.

22 I want to assure you that we are as committed to
23 the goals of one national program today as we were in
24 2012. Right now we should all be getting back to work on
25 this. And your role will continue to be important for the

1 2022 to '25 standards and beyond.

2 Let me turn briefly to the ZEV mandate.

3 The program does have problems. We all know
4 this. We need to understand the state of the market, not
5 just the state of the technology. Meeting the significant
6 numbers here in California will be a big challenge. But
7 here at least you understand the importance of investing
8 in infrastructure and incentives to encourage markets.
9 This is why in percentage terms we're selling six times as
10 many ZEVs in California as in the Northeast states, with
11 similar numbers of models available for sale.

12 Second, the programs now who focus on one
13 electric technology rather than the broad range of ZEV
14 technologies distract us from what really matters, getting
15 more ZEVs into the marketplace by increasing consumer
16 awareness and acceptance; and it likely leaves benefits to
17 the planet on the table.

18 We've invested billions in advanced technology
19 vehicles. We remain committed to developing sustainable
20 markets for them and we look forward to working with you
21 to accomplish this critical goal.

22 Thanks for your time. I hope we get an
23 opportunity to discuss this and answer any questions you
24 have.

25 CHAIR NICHOLS: Thank you.

1 MR. BOZZELLA: You're welcome.

2 CHAIR NICHOLS: Mr. Douglas, welcome.

3 MR. DOUGLAS: Good morning, Chair Nichols, Vice
4 Chair Berg and members of the Board. I'm Steve Douglas
5 with the Alliance of Automobile Manufacturers. It's a
6 real pleasure to be here.

7 I only have three minutes so I'll go ahead. And
8 if you go to the next slide. And actually I only want
9 three minutes.

10 (Thereupon an overhead presentation was
11 Presented as follows.)

12 MR. DOUGLAS: Of course there's been a lot of
13 media attention around the Trump Administration, the
14 Alliance, automakers, GHG, ZEV, midterm review, waivers.
15 So I thought it might be helpful if I just kind of laid
16 the groundwork and tell you what the Alliance position is
17 and where we're coming from.

18 First, we fully recognize that California has a
19 waiver for greenhouse gas and zero-emission vehicles and
20 low-emission vehicle programs. And we have not requested
21 or advocated for the Administration to overturn those
22 waivers. We haven't.

23 We have consistently supported the midterm review
24 on the original timeline as it was laid out and agreed to
25 in 2012. And we did ask the Administration to return to

1 this timeline. So last week -- last week's activity
2 simply brought us back to where we would have otherwise
3 been but for EPA's action at the end of the last year, at
4 the beginning of this year, which we believe was
5 premature.

6 So with that, I'd like to turn to ZEV, which is
7 actually more my specialty. If you could go to the next
8 slide.

9 --o0o--

10 MR. DOUGLAS: First I just want to point out that
11 18 through 25 regulations haven't even started yet. So
12 the manufacturers have made great progress in developing
13 30 -- almost 30 high quality zero-emission vehicles.
14 They're efficient. They're safe. They're reliable.
15 They're fun to drive. And California, for your part - and
16 we appreciate this - has been very good at creating a
17 comprehensive program of complementary measures. However,
18 I want to point out we are a long, long, long way from the
19 finish line. The ZEV market is not sustainable today.

20 The regulations are very aggressive in California. It
21 requires tripling of the sales. So sales have to triple
22 over the next few years. In the Section 177 states it's
23 five to ten times that amount. So it's a bigger hurdle.
24 And we do expect sales in the 177 states will increase
25 over the next few years. But we don't see any way that

1 they will reach the level that California's at in the time
2 that's required. So I think right -- automakers are
3 rightfully concerned about their ability to comply with
4 these regulations.

5 We've recommended revising the requirements now.
6 However, if not now, we'd ask the Board to continue to
7 monitor this - and staff - and make appropriate changes,
8 monitor the ZEV market and make appropriate changes in the
9 2019 time frame.

10 Thank you very much, and I'd be happy to answer
11 any questions.

12 CHAIR NICHOLS: I think rather than engaging at
13 this point, we should just go through the testimony, and
14 then we'll have some conversation. Thank you.

15 MR. DOUGLAS: Okay. Thanks.

16 CHAIR NICHOLS: Ms. Lilly -- Amy Lilly. Good
17 morning.

18 MS. LILLY: Good morning. My name is Amy Lilly
19 and I'm here representing Mercedes-Benz. Today I'd like
20 to talk about our robust investments in electric mobility
21 and fuel cell vehicles, our plans for marketing these
22 products, and our commitment to partnering with California
23 to ensure our EV customers' infrastructure needs are met.

24 Due to time restrictions, I have left a longer
25 version of my remarks in the record, and I'm going to be

1 doing some fast talking here.

2 Mercedes-Benz' goal is to become the undisputed
3 leader in EV sales in the premium segment by 2025, and we
4 will have over 10 electric models by that year. This is
5 an ambitious goal, but we have already begun to seriously
6 invest in the transition to a more heavily electrified
7 fleet.

8 By the end of 2019 we'll have six PHEVs on the
9 market and we will continue to offer BHEVs through 2025
10 and beyond because we believe advanced long-range
11 batteries offer customers a no-compromise solution.

12 Starting in model year 2018 a hundred percent of our
13 Smart vehicles will be EVs; and Mercedes-Benz will begin
14 to launch our EQ brand in 2019. EQ stands for electric
15 intelligence, and it's comprised of comprehensive electric
16 ecosystem of services, technologies, and innovations,
17 which will be fully scalable across all model.

18 Lastly, we'll introduce our GLC F-Cell later this
19 year at the Frankfurt Auto Show. Almost \$11 billion of
20 our research budget have been dedicated to e-mobility, and
21 we have invested over \$1 billion in our global battery
22 production. Investments continue to be made in
23 manufacturing capacity, hardware and designs; and, rest
24 assured, these investments will continue regardless of
25 what the discussions will be with the regulations.

1 But just offering compelling products will not be
2 enough. Mercedes-Benz fully supports what CARB stated in
3 Appendix B of the recommendations for the midterm review;
4 namely, that fleet transformation to near or pure ZEV also
5 requires consumers to demand and ultimately purchase these
6 products. We're simply not going to reach our joint goals
7 unless we can move beyond early adopters to the mainstream
8 consumers.

9 I'm here to dispel the perception that our
10 dealers are not serious about selling ZEV vehicles. And
11 we heard that mentioned by Christine Kirby a little bit
12 earlier. Mercedes-Benz U.S.A. has created a new
13 department specifically tasked with preparing our dealers
14 to sell ZEV vehicles by developing and executing new and
15 enhanced training programs, installing charging stations
16 at dealerships or sales and service needs, and embarking
17 on marketing efforts nationwide.

18 Turning to infrastructure. I think everyone is
19 in agreement that the number of stations is woefully
20 inadequate. Considering that all automakers have plans to
21 introduce a variety of models in all segments,
22 infrastructure must be exponential growth. To help
23 address the concern, we and other automakers are not only
24 building ZEV vehicles, but we're also investing in needed
25 infrastructure. For example, we recently invested in

1 Charge Point. Also, Mercedes-Benz has been actively
2 supporting the CPUC recommendations to mandate the ISO
3 15118 communications protocol to ensure ZEV, P -- excuse
4 me -- PEVs to infrastructure interoperability.

5 In closing, when our CEO, Dr. Dieter Zetsche,
6 announced our goal of becoming the EV sales market leader
7 within the premium segment by 2025 has signaled that
8 Mercedes-Benz is committed to deploying electrified
9 vehicles in the mainstream market. We plan to work
10 collaboratively with CARB and other stakeholders to
11 overcome our consumer acceptance in infrastructure
12 challenges. And, lastly, we're ready to start the
13 discussion about how best to encourage additional ZEV
14 deployment after 2025.

15 Thank you.

16 CHAIR NICHOLS: Thank you.

17 Mr. Lord.

18 MR. LORD: Good afternoon, Chair Nichols and
19 Board members. My name is Michael Lord, and I'm an
20 executive engineer for the Product Regulatory Affairs
21 Division at Toyota Motor North America.

22 First I'd like to talk a little bit about some of
23 Toyota's products. Our Prius Prime, which is our new and
24 significantly improved plug-in hybrid, is on the market
25 now. We believe the Prius Prime is the most fuel

1 efficient vehicle in the U.S. today with 133 mpge and an
2 estimated 640-mile range.

3 The EV range is 25 miles, and we've made many
4 improvements to maximize the driver's EV experience by
5 practically eliminating engine starts during those 25
6 miles.

7 And starting at 27,100, before the \$4500 federal
8 tax credit, we think it's a great value.

9 So in addition to the Prius Prime, Toyota
10 continues to lead the initial market for fuel cell
11 vehicles with the Toyota Mirai, a ZEV with an estimated
12 312-mile range and a 3- to 5-minute refuel time.

13 And we'd like to thank Chairman Nichols and
14 Professor Sperling for being Mirai pioneers. We trust
15 you've had good experience with the vehicle.

16 However, you may have some issues so far with
17 infrastructure -- your experience with infrastructure at
18 this stage. And although we made some great progress in
19 California on stations, we have room for improvement in
20 the coverage, reliability, and speed of construction.

21 And my colleague, who's scheduled to speak next,
22 I think he will be later in the day. I think he's stuck
23 in Riverside traffic.

24 (Laughter.)

25 MR. LORD: We'll speak about that later.

1 (Laughter.)

2 MR. LORD: So regarding improving in the ZEV
3 Program, I wish to make --

4 CHAIR NICHOLS: You should have been here for the
5 VMT discussion yesterday.

6 (Laughter.)

7 MR. LORD: Right. Thank you.

8 Regarding improvements to the ZEV Program, I wish
9 to mention four broad and core requests today.

10 First, we believe the role of plug-in hybrids is
11 undervalued in the current regulation. We still believe
12 that PHEVs can fulfill a significant portion of the
13 emission reduction goals from 2030 to 2050, and that the
14 staff's assessment of the emission impacts needs further
15 evaluation. PHEVs are a technology that customers can
16 embrace, and we believe the credit structure and the
17 current cap should be adjusted in the regulation.

18 Second, we believe while progress is made in the
19 Section 177 states, it continues to lag the California
20 market. Our request is not to make changes today, but I
21 ask you to direct staff to come back to you with a more
22 robust assessment of the Section 177 state markets and
23 potential regulatory flexibilities to address it.

24 Third, we believe CARB should consider increasing
25 the maximum credits for PHEV, BEVs, and fuel cells. PHEV

1 credits are max'd out at 80-mile range, and BEVs and fuel
2 cells are 350. By raising this cap, we think it's a good
3 tool incentivizing longer range vehicles in all three
4 categories.

5 And fourth, and in closing, we need to look at
6 ways to further accelerate hydrogen infrastructure
7 development. In addition to improving the existing AB8
8 process with the Energy Commission, we encourage ARB to
9 consider additional funding and incentives, including
10 credits under the ARB existing programs, to help us move
11 beyond the hundred stations. And we would like to ask you
12 to direct staff to come back to you with recommendations
13 on how to accelerate the build-out of hydrogen
14 infrastructure.

15 Thank you.

16 CHAIR NICHOLS: Thank you. So your colleague is
17 not here. We'll proceed next to NRDC.

18 Simon Mui.

19 MR. MUI: Good morning, Chairwoman Nichols and
20 members of the Board. Thank you. I'm Simon Mui with
21 NRDC, director of our vehicles and fuels program here on
22 the West Coast.

23 First I want to thank staff for their years of
24 hard work on this review. It's been carefully done,
25 thoroughly analyzed. And I think you can all breathe a

1 breath of relief today. Your staff has provided
2 substantial evidence, substantial evidence that the
3 existing standards can be met on time, with no
4 technologies, and a cost lower than we originally
5 anticipated in 2012. In a nutshell, the program is
6 working.

7 Both the Legislature and the Governor have spoken
8 loudly and clearly last year in setting aggressive carbon
9 reduction goals for 2030, aggressive electrification goals
10 through SB 350, and calling for us as a state to really
11 double down on meeting our air quality requirements.

12 These standards we're talking about today are the
13 state's major tool to do that. It's achieving the most
14 carbon reductions to date under AB 32 and nationally
15 through the national program. It's the main policy driver
16 for electrification and helping to improve public health
17 in a state where 8 out of 10 people still are breathing
18 unhealthy air.

19 For these reasons, we're asking the Board to
20 green light staff's proposal. Let's maintain the steady
21 course that California has been on, and continue that
22 through 2025, and begin the stakeholder process and
23 discussions around the next steps post 2025, and further
24 improve and strengthen the ZEV standard through that
25 process.

1 All eyes are looking to us today, particularly
2 given last week's disappointing announcement from the
3 Trump Administration to reopen the review process
4 federally that was completed. That's the first step to
5 weakening federal clean car standards and fuel economy
6 standards. We know that.

7 As we've heard, California's program isn't just
8 benefiting the health and welfare of California, but
9 residents from 12 other states. That's 113 million
10 people, one-third of the U.S. population.

11 Over the past decades this agency has seen
12 federal administrations come and go. But each time it's
13 stayed true to its principles that it will continue to
14 lead and protect the public health and the welfare when
15 others lag, and let the technical evidence be the primary
16 guide for setting standards. And the weight of that
17 evidence today shows that these standards are very much
18 achievable. Please reaffirm these standards and continue
19 moving us forward.

20 And now I'll let my colleague, Irene Gutierrez,
21 make some additional comments.

22 CHAIR NICHOLS: Thanks.

23 MS. GUTIERREZ: Good morning. Irene Gutierrez
24 with NRDC.

25 As my colleague, Simon Mui, has noted, I'd like

1 to thank the Board and the staff for the years of work
2 that have gone into putting together the Advanced Clean
3 Cars program. I'll make comments on two sections. I'll
4 comment on the ZEV Program and also on California's
5 regulatory authority.

6 As we've heard from the states, the ZEV Program
7 is a key driver for expanding markets in California and
8 other states. And we've seen cost-tipping points like
9 this in the solar and the wind industry. And the ZEV
10 Program is working. It creates a market for plug-in
11 electric vehicles and drives costs down and makes vehicles
12 more accessible to members of the population.

13 Automakers can readily meet the targets that ARB
14 has set. As we've noted in our comment letter, expert
15 analysis has shown that the likely sales targets to meet
16 the ZEV requirements in California is 6 percent by 2025.
17 This is lower than the original figure of 15.4 percent
18 sales. ARB's analysis shows that 8 percent sales by 2025
19 is needed and even Auto Alliance's study shows that only
20 10 percent sales are needed.

21 So by all metrics, the ZEV Program is well within
22 reach and becomes increasingly attainable over time as
23 vehicle technology improves and you see higher range
24 vehicles coming on to the market. So with this in mind,
25 we support ARB's recommendation to maintain the ZEV

1 standards through 2025, and we support the proposal to
2 continue strengthening the program for 2026 and beyond.

3 We look forward to working with ARB and other
4 State agencies on complementary policies to continue
5 supporting the program.

6 I'd also like to note that we support
7 California's staying firm in its commitment to protecting
8 state residents from air pollution and climate threats.
9 We're disappointed by some of the comments that have been
10 made by global auto makers and the Alliance of Automobile
11 Manufacturers. These groups are now arguing that even if
12 California committed to match federal EPA standards, that
13 it sticks with its commitment even if federal standards
14 are weakened. We closely followed this process, the
15 various negotiations that went on in 2009 to 2012, and we
16 know that this is not what California agreed to.
17 California never agreed to surrender its independent
18 regulatory authority and leave its residents at risk.
19 Industry groups misrepresent what the parties agreed to in
20 signing on to a national program; and they selectively
21 quote the statements made by California in its 2011
22 commitment letter, which states that California agreed it
23 would only accept compliance with the federal standards as
24 long as they remained as strong as those that were set
25 forth in 2011.

1 California did not agree to accept every change
2 to EPA standards and it doesn't need a permission slip to
3 go forward with its own.

4 So for these reasons, we support what ARB has
5 proposed and we look forward to working with ARB and staff
6 in the future.

7 Thank you.

8 CHAIR NICHOLS: Thank you, Ms. Gutierrez, and
9 thank you for your clarification on what was agreed to at
10 the time. We've seen a number of statements about that
11 that have been troubling, not just about the one national
12 program but also about the nature of the midterm review
13 itself, which never was intended to have to go out to the
14 full possible length. It was not something that was even
15 contemplated at the time, that it must extend further. It
16 was supposed to be done when it was ready to be done. So
17 the recent cries of process foul about the EPA decision,
18 even though we weren't apart of it, struck us as being
19 strange, to put it mildly, and certainly not based on the
20 agreement that we were a part of.

21 So thank you for your comments.

22 Mr. Lutsey.

23 MR. LUTSEY: Chair Nichols, Board members. Thank
24 you so much for all of your great work cleaning up vehicle
25 emissions. I'm Nick Lutsey. I'm with the International

1 Council on Clean Transportation. Just wanted to give a
2 few reflections here from some of our recent work.

3 First, we conducted a major technical study that
4 we just released this week. It analyzes technologies and
5 costs to reduce carbon dioxide emissions in the 2025 and
6 2030 time frame. Our work parallels and updates all of
7 the great work from ARB staff as well as EPA and NHTSA
8 staff. I'll highlight just a couple findings.

9 We find that previous government estimates,
10 including the MTR and the TAR by the agencies,
11 overestimate the compliance costs by 30 to 40 percent.
12 And that's due to all of the very low cost efficiency
13 technologies that keep emerging in the fleet.

14 These standards based on these low cost
15 technologies are extremely cost effective. The consumer
16 fuel savings tend to be two to three times higher than the
17 technology costs. And those findings are robust in that
18 they stand up even in low fuel prices.

19 If ARB maintains 2025 standards, this will
20 certainly help ensure that the U.S. auto market remains
21 globally competitive as Europe, China and elsewhere
22 continue to move forward with tougher standards for their
23 markets.

24 Second, we've done extensive work analyzing the
25 electric market -- electric vehicle market developments

1 around the world. Clearly California plays in a central
2 role as an incubator of electric vehicle technology. We
3 found that San Francisco and San Jose are among the global
4 leaders, with 6 percent and 10 percent of new vehicles in
5 those markets being electric vehicles today.

6 6 to 10 percent new electric vehicle sales is
7 essentially where the ZEV regulation would have us here in
8 California by 2025. So clearly the market is developing
9 much quicker than ARB had anticipated.

10 So as part of all this, the ZEV Program is
11 certainly a critical catalyst. It increases model
12 availability. It nudges automakers to develop and market
13 the cars. It provides the timetable for infrastructure
14 investments.

15 At this moment clearly it's important to look at
16 2030 policy. Costs are dropping. Great new electric
17 vehicles keep entering the fleet. And long regulatory
18 lead time is critical.

19 To close, California's role as an incubator is
20 extremely important internationally. All of the
21 collaborations with Norway, the Netherlands, Quebec are
22 growing the global scale of ZEV technology. So thanks for
23 all your great work. It's really important to see all
24 these developments and make sure they do become global
25 developments.

1 Thank you.

2 CHAIR NICHOLS: Thanks.

3 Hold on just a second. I think Dr. Sperling
4 wants to say something.

5 BOARD MEMBER SPERLING: I want to just
6 acknowledge that Nick Lutsey played a very key role back
7 in developing the 2012 -- doing the technical work behind
8 the 2012 standards. Brilliant work, and also happens to
9 be one of my former students.

10 (Laughter.)

11 CHAIR NICHOLS: This is not a paid commercial.

12 (Laughter.)

13 MR. LUTSEY: Thank you, Professor Sperling. I
14 was taught very well. I really appreciate it.

15 (Laughter.)

16 CHAIR NICHOLS: Thank you. Thank you for that.

17 Okay. Next up we have Chet France from EDF.

18 Mr. France was also involved at the time in the 2012
19 process, and brings that expertise to this discussion as
20 well.

21 MR. FRANCE: Thank you, Chair Nichols and the
22 Board. These are topics that are very near and dear to my
23 heart.

24 On behalf of the Environmental Defense Fund and
25 more than 2 million members nationwide, I thank you for

1 the opportunity to speak today.

2 I want to offer our recommendations on the
3 midterm review and the post 2025 clean car standards. We
4 agree and support the staff's conclusion that the current
5 model year 2022 to 2025 standards remain appropriate.

6 Given the substantial and compelling record, we
7 recommend that the Board reaffirm California's commitment
8 to the current federal standards. These standard -- these
9 recommendations are based on extensive technical record
10 that included multiple opportunities for public comment
11 engagement and input.

12 The final determination in supporting analysis
13 show automakers and suppliers are developing and deploying
14 fuel-efficient technologies at a much faster rate than was
15 forecasted in the 2012 final rule. And they're doing it
16 as costs that are lower than projected in that rule.

17 The standards will be met with advances in
18 conventional technologies such as engine and transmission
19 improvements, lightweighting, and better aerodynamics.
20 These improvements have come alongside a dramatic rebound
21 in the auto industry. Vehicle exports are up. Sales are
22 at an all-time high, and the industry has added over
23 700,000 jobs since 2009.

24 Next slide please.

25 --o0o--

1 MR. FRANCE: Though the technical record
2 supports even more protected standards for 2022 to 2025,
3 EDF believes that the better approach is to strengthen the
4 standards for model year 2026 and beyond. Accordingly, we
5 recommend that the Board direct the staff to begin work on
6 strengthening the Greenhouse Gas and ZEV Program for 2026
7 and beyond.

8 EDF recently sponsored a study that examined
9 reductions that may be possible in the 2030 time frame.
10 Tom Cackette, who will follow me, who was one of the
11 authors, will provide the Board with a separate
12 presentation on the specific details of the report.
13 Though as a general matter, it confirms the feasibility
14 and cost effectiveness of deep CO2 reductions.

15 The major findings of the report are there are
16 under-utilized conventional technologies available to
17 further reduce CO2 emissions, the cost of lithium ion
18 batteries is declining rapidly, widespread introduction of
19 ZEV models is possible by 2030, and the availability of
20 cost competitive ZEV technologies opens a technological
21 pathway for all OEMs to achieve very large CO2 emission
22 reductions.

23 This analysis provides strong technological,
24 economic, public health, and environmental reasons for
25 initiating work necessary to begin defining the post 2025

1 Clean Car and ZEV Program.

2 Next slide.

3 --o0o--

4 MR. FRANCE: In conclusion, we recommend that
5 the Board reaffirm California's commitment to the current
6 2022 to '25 standards and direct the staff to begin work
7 on strengthening the Greenhouse Gas and ZEV Program.

8 Thank you for your leadership on these issues,
9 and thank you for considering our comments.

10 CHAIR NICHOLS: Thank you.

11 Are you aware of any new studies or reports or
12 other technical information that would call for a
13 reopening of the midterm review?

14 MR. FRANCE: No, I'm not. And this has been a
15 multi-year effort. I think it's more extensive than I've
16 ever seen in my whole career.

17 CHAIR NICHOLS: Okay. Thank you.

18 Mr. Cackette, welcome back.

19 (Thereupon an overhead presentation was
20 Presented as follows.)

21 MR. CACKETTE: Thank you. Appreciate the
22 opportunity to share with you the study that Chet
23 mentioned, which a colleague and I prepared for the
24 Environmental Defense Fund. And that study is looking at
25 the opportunities and the potential for achieving greater

1 CO2 emission reductions in the post 2025 standards, so --
2 future standards for the next five years or so.

3 I need to give you a little bit about the study
4 and what we did. First of all, we used the tool that you
5 used and that EPA used to do the TAR, the Technical
6 Assessment Report, and the Preliminary Determination
7 Report; and we made very few adjustments to it. We only
8 extended its modeling domain from 2025, which was the
9 purpose of this meeting, to 2030, and we used some updated
10 information which showed that the -- in the 2030 time
11 frame the cost of manufacturing a ZEV was going to
12 continue to decline.

13 And we have a number of scenarios, but I'm just
14 going to share just one with you.

15 So next slide please.

16 --o0o--

17 MR. CACKETTE: So this is the -- this slide shows
18 some of the key inputs and outputs that we came from the
19 study.

20 As an input, this shows you the declining costs
21 of manufacturing different types of ZEVs over time. So
22 you can see right now we're up there in the, you know,
23 \$15,000 range. But you can see that by 2030, a
24 hundred-mile BEV is cheaper to manufacture than an
25 internal combustion engine vehicle. So this is the kind

1 of -- this is important input that shows why ZEVs will be
2 popular and effective in the future.

3 Click please.

4 --o0o--

5 MR. CACKETTE: A couple study results. One is we
6 looked at a scenario where there were no ZEVs available
7 and how much conventional technology could do. And we
8 found that you could do more than the 2025 standards but
9 only in the range of 10- to 30-gram-per-mile reduction
10 from the current standard.

11 --o0o--

12 MR. CACKETTE: But when we let ZEVs come into the
13 model for selection with these prices I just showed you,
14 then you could go all the way to 90-grams-per-mile
15 reduction, which is taking 173-gram standard and making it
16 an 83-gram standard. So a very big reduction.

17 So next slide please.

18 --o0o--

19 MR. CACKETTE: This is the results. And I'm
20 going to -- follow the colors, if you would.

21 We looked at 10-gram increments. And so here's a
22 50-gram increment and a 90-gram increment, and -- next
23 slide please.

24 --o0o--

25 MR. CACKETTE: -- you can see that the costs are

1 certainly there. There's a prices increase that the
2 consumer would see. But you can also see that the fuel
3 savings are two to three times as large as the capital
4 costs of the vehicle.

5 Next slide.

6 --o0o--

7 MR. CACKETTE: The payback period is five years.
8 The average person keeps a vehicle for 6.5 years on a new
9 vehicle.

10 And, finally, the number of ZEVs that would be in
11 the mix to achieve these standards at 50 grams per mile is
12 21 percent and then 40 percent. So a big increase beyond
13 what we have now but clearly feasible.

14 And final slide.

15 --o0o--

16 MR. CACKETTE: This is a pathway from your staff
17 that shows how many ZEVs you need to achieve the 80
18 percent reduction in emissions by 2050 that the Governor
19 has set as executive order.

20 --o0o--

21 MR. CACKETTE: And the next slide shows you where
22 these two scenarios fall on the curve. If you achieve a
23 90 percent re -- 90-gram reduction by 2030, you're right
24 on the curve towards the 2050 goal of 80 percent reduction
25 from this sector. And if the number is less than that at

1 50, you could see that you're somewhat below the line and
2 would have to play catch-up in the later years after 2030.

3 So thank you very much.

4 CHAIR NICHOLS: Thanks. Before you go, Dr.
5 Balmes had a question for you.

6 BOARD MEMBER BALMES: I'm not going to take
7 credit for you being my student. I think it was the other
8 way around.

9 (Laughter.)

10 BOARD MEMBER BALMES: But I am going to ask you,
11 since you were the one that suggested I buy a diesel TDI
12 Jetta --

13 (Laughter.)

14 BOARD MEMBER BALMES: -- what have you done with
15 yours?

16 (Laughter.)

17 MR. CACKETTE: Well, I have one and my daughter
18 bought one two weeks before the announcement that they
19 were going to -- they had cheated.

20 So we still have them, but we're both going to
21 sell them back. And I'm buying an electric vehicle to
22 replace it.

23 (Laughter.)

24 (Applause.)

25 BOARD MEMBER BALMES: I already have.

1 CHAIR NICHOLS: To allow you to rebuild your
2 credibility here,

3 (Laughter.)

4 MR. CACKETTE: Please help me, Madam Chair.

5 CHAIR NICHOLS: Let me just ask you a question
6 actually about your comment about the 100-mile BEVs.
7 Because, not to speak for the manufacturers, but others
8 have commented independently that they don't really see
9 consumers making a big move to battery electrics -- full
10 battery electrics with less than the 200-mile range.
11 What's your opinion on that?

12 MR. CACKETTE: Well, that scenario that we
13 presented included a 50 percent mix of 100-mile BEVs and
14 the other 50 percent being 200-mile. And I don't really
15 know what people are going to select. If 200 miles is,
16 you know, a thousand dollars more than a hundred miles,
17 you know which one you're going to buy. But if there's a
18 bigger price difference, I think there will be some sales
19 of lower ones for urban use as a second car - that's kind
20 of what we're doing with all the Leafs that are out there
21 now, for example - and other people that want to try to
22 make this vehicle as primary vehicle will go for the 200
23 miles and pay the extra money. So I think it will be a
24 mix.

25 And we didn't show any plug hybrid electric

1 vehicles in there, because they're actually a more
2 expensive choice for manufacturing. But from a consumer
3 standpoint, a lot of people that want one car are going to
4 go for the Volt-like vehicle and use it urbanwise
5 electric. And so I think there will be a mix of those as
6 well.

7 CHAIR NICHOLS: Thanks.

8 Okay. Rasto Brezny from MECA.

9 DR. BREZNY: Good morning, Chair Nichols and
10 members of the Board. I'm Rasto Brezny, the Executive
11 Director for the Manufacturers of Emission Controls
12 Association.

13 MECA members supply the many technologies that
14 allow light-duty vehicles to comply with both the
15 greenhouse gas and the criteria pollutant requirements
16 under the Advanced Clean Cars program. These include
17 things like fuel injection, turbochargers, all the way out
18 to 48-volt technologies, and the types of catalysts and
19 filters that are required for these different powertrains
20 to achieve criteria pollutant requirements. So we agree
21 with staff's conclusions and their recommendations.

22 So I want to focus on an area where we feel that
23 more can be done sooner. And this is in the area of PM
24 reduction.

25 PM -- we know that PM is really not just an

1 inventory issue. It's also a health issue; it's a climate
2 issue with black carbon; and its a toxics exposure issue
3 as well.

4 So, you know, we expect that by 2025, half the
5 new vehicles made are going to come equipped with the
6 gasoline direct-injected engines. So we've spent a lot of
7 time characterizing the PM from these vehicles, and we
8 know that the GDI PM is very similar to the diesel PM. It
9 has many of the same components, as well as the black
10 carbon that's contained.

11 Other parts of the world have chosen to address
12 this change in fleet mix by establishing particle number
13 standards. And Europe will adopt these in 2017, later
14 this year; China, in 2020; and India, in 2023. The
15 particle number standard is roughly equivalent to half a
16 milligram per mile.

17 So you see that the same manufacturers that sell
18 cars in California are going to have to comply with much
19 tighter PM standards in other parts of the world sooner
20 than 2025.

21 So we've -- numerous studies have shown that, you
22 know, these low PM levels can be achieved either through
23 better fuel injection technology or gasoline particulate
24 filters. And there's a number of vehicles on the road
25 today that are exceeding the one milligram standard.

1 So catalyzed GPFs go a step beyond that by not
2 only reducing the black carbon, but also the toxics and
3 other compounds that are associated with the PM by over 90
4 percent, with no impact on CO2 or fuel economy.

5 So we'd like to work with your staff to look at
6 voluntary incentives that could be used to incentivize
7 this best available control technology here in the U.S.
8 through a modest CO2 credit for achieving the
9 one-milligram standard sooner by putting on the best
10 available control technology on these vehicles.

11 Thank you.

12 CHAIR NICHOLS: Thanks.

13 Mr. Noyes.

14 MR. NOYES: Good morning, Chair Nichols, members
15 of the Board. My name is Graham Noyes. I'm the Executive
16 Director the Low Carbon Fuels Coalition. We're an
17 organization dedicated to the support and expansion of low
18 carbon fuel policies.

19 We provided detailed written comments for the
20 record. I will move through them quickly, but would
21 recommend those for any points that are raised here that
22 you'd like to look at in more depth.

23 And we come forward neutral. We certainly
24 recognize the great work by staff that went into this
25 report and the very -- excuse me -- challenging situation

1 that we're in -- sorry, I've got an allergy raising here.

2 California's plan relies upon EPA's final
3 determination in NHTSA. But when Senator Chao and --
4 Secretary Chao and Administrator Pruitt signed the notice
5 of intention to reconsider the final determination of
6 greenhouse gas standards for model year 2022 through 2025
7 light-duty vehicles, that was a game changer. And we
8 recommend to staff and to the Board to recognize that that
9 was a game changer. The automakers are effectively on a
10 five-year time frame, and so 2022 is today from that
11 perspective. We've now seen the federal process open.
12 And the midterm review itself recognizes that the findings
13 would likely be different if the stringency of the
14 national greenhouse gas standards were substantially
15 changed.

16 So our recommendation is that the Board keep the
17 Advanced Clean Car rule -- the midterm review open, and
18 establish a return to the Board to discuss what's
19 happening on the federal front, so that California can
20 remain nimble on its feet and be aware of what's happening
21 with the changing federal landscape here.

22 We also recommend that California build flex fuel
23 vehicles and mid-level ethanol blends back into its policy
24 program. Those have proven to be very successful in terms
25 of reducing petroleum dependence and also delivering

1 greenhouse gas reductions. We've seen the carbon
2 intensity of ethanol drop to about 20 percent less than
3 gasoline. Of course ethanol substitutes completely for
4 gasoline as a fuel. So to achieve those two goals
5 California's invested millions in a network of E85
6 stations and 20 million gallons of E85 was delivered last
7 year into California vehicles. Those vehicles provide
8 reductions in disadvantaged communities, as is required by
9 AB 197, so it's an on-the-ground solution. And as NREL
10 has said, FFVs can provide a bridge between our current
11 situation to the future realm of new vehicles.

12 So our specific recommendation is for the Board
13 to receive an update in three months that includes a
14 review of integrating a flex fuel vehicle/mid-level
15 ethanol blend component into the Advanced Clean Cars rule.
16 And our perspective is that in a dynamic federal
17 landscape, California's going to need to be both tough and
18 flexible to achieve its goals.

19 Thank you.

20 CHAIR NICHOLS: Thanks. Tough and flexible.
21 Sounds like a pretty good mantra.

22 Ken Morgan. Morning.

23 MR. MORGAN: Hi.

24 Chair Nichols, members of the Air Resources
25 Board. Thank you for the opportunity to speak here today.

1 My name's Ken Morgan. I'm with Tesla.

2 And I guess I'll just start by saying we're very
3 excited to be launching our Model 3 vehicle this year.
4 That's a car that is fully electric, zero emission,
5 \$35,000, with over 200 miles of range.

6 And just a quick note on market acceptance. With
7 that vehicle, within the first two months of announcing
8 unveiling that car, we received 373,000 deposits
9 worldwide. And many of those deposits were from
10 California customers. So the market is certainly there
11 for the right type of vehicle, and we're looking forward
12 to getting that off the production line.

13 And just a quick note on the midterm review.
14 Clearly this is a very critical moment in the history of
15 the ZEV movement. And certainly your decision here today
16 will have an impact, and the guidance you provide will
17 have an impact on the next decade of investment by the
18 automotive community in this technology. And we know this
19 because the federal regulations, Greenhouse Gas Cafe, can
20 be met with incremental improvements to existing
21 combustion engine technologies. So it really is the --
22 California's regulation that is driving these near-term
23 investments in pure zero-emission technology, and that's
24 why it's so critically important. And certainly also
25 important to hitting some of the emissions goals that were

1 outlined by the staff earlier.

2 As Anna mentioned during her presentation, in
3 terms of the technical assessment of the trajectory of the
4 ZEV mandate -- and I do just want to recognize briefly
5 that the staff has done a fantastic job with the technical
6 review of the ZEV regulation. But she mentioned staying
7 the course. And so I think it's just important to note
8 that the course that was set in 2012 was 15 percent of
9 sales by 2025. And so if we choose to make no change to
10 the regulation, in fact we are setting a new course that's
11 been reviewed by both staff and other folks that have run
12 this analysis, that's about half of that trajectory that
13 was anticipated when the credit targets were set in 2012.

14 So we certainly feel that it's really important
15 to look at this credit oversupply and to make a decision
16 to amend the regulation as soon as possible to get us back
17 on track to hit some really significant milestones by
18 2025, such that we are on an upward slope towards that
19 2030 goal.

20 As the staff have outlined in their scoping plan
21 update, we need something in the order of 4.2 million
22 plug-in cars by 2030 to hit the state goal of 40 percent
23 GHG emissions reduction. But the current trajectory of
24 the regulation only gets us to 1.2 million by 2025. So
25 it's pretty heavily backweighted today, and I think that

1 does put the 2030 goal at risk. So we certainly would
2 recommend that the Board take some near-term action as
3 quickly as possible to address the oversupply of credits.

4 Thank you.

5 CHAIR NICHOLS: Thank you.

6 MS. HOLMES-GEN: Good morning, Chair Nichols and
7 Board members. Bonnie Holmes-Gen with the American Lung
8 Association in California; and also a proud ZEV owner of
9 over three years.

10 California's leadership on clean cars is
11 providing tremendous returns in health and clean air
12 benefits, not just for California but for all the ZEV
13 states and indeed around the world. We have been pleased
14 that the American Lung Association be able to quantify
15 those benefits in own report, Clean Air Future, that we
16 released last fall. And I wanted to just talk for a
17 moment about some of those health benefits.

18 Our report finds a widespread shift to
19 zero-emission vehicles in all the ZEV states, a shift that
20 builds on our current ZEV regulation, Advanced Clean Cars,
21 and ramps up to 65 percent of ZEVs in our fleet by 2050
22 would bring tremendous health benefits. And this would
23 bring benefits to millions of people in all of our states.
24 The public right now is bearing a huge cost, billions of
25 dollars annually in health expenses and climate damage

1 from our dependence on petroleum fuels.

2 Or to bring it down to a more personal level, for
3 each 16-gallon tank of gas we're burning, it costs society
4 about \$18.42 in health and climate impact costs. This is
5 a very conservative estimate and only looking at the
6 passenger vehicle sector. So moving to zero emission,
7 it's going to dramatically reduce these costs and increase
8 the benefits to public health.

9 Here's the bottom line. A robust ZEV Program in
10 2050 would result in over 90 percent reduction in
11 emissions that generate smog and soot from vehicles,
12 around 85 percent reduction in health impacts, and more
13 than a 50 percent reduction in greenhouse gases from
14 passenger vehicles compared to 2015, which is similar to
15 taking all the cars off the road in the Northeast states.
16 And this adds up to a savings of over \$33 billion. And
17 that's 20 billion in health savings alone across the
18 zero-emission vehicle states.

19 This is an enormous advance for public health.
20 We can break it down and look at:

21 Reductions in asthma attacks. 96,000 fewer
22 asthma attacks.

23 Reductions in lost work days and reductions in
24 premature deaths. Over 2,000 fewer premature deaths.

25 We have all this data. We've shared it with you.

1 But I want to make sure that we've brought it into clear
2 focus today as you're looking at this important regulation
3 and determining the future.

4 To conclude, please direct the staff to move
5 forward quickly now, to build on the next phase of
6 Advanced Clean Cars and Zero-Emission Vehicle programs to
7 keep us on track to meet our climate goal and realize
8 these tremendous health benefits. And please keep the
9 particulate matter controls on track as staff is
10 recommending.

11 Thank you very much.

12 CHAIR NICHOLS: Thank you.

13 Eileen Tutt.

14 MS. TUTT: Chair Nichols and members of the
15 Board. Good morning. My name is Eileen Tutt. I'm with
16 the California Electric Transportation Coalition.

17 I'm not going to repeat anything that's in our
18 letter. We completely support the staff recommendation
19 specifically regarding the ZEV part of the program. And
20 we're really happy to be working with them throughout the
21 whole process. So we found them to be, as usual, very
22 pleasant and responsive to work with.

23 I do want to just point out something because I
24 didn't see it really highlighted in Anna's presentation;
25 and you'll not be surprised to hear me say this. The ZEV

1 Program is on track and we're glad you're going to keep it
2 on track hopefully. We are -- California is clearly
3 committed to zero-emission vehicles. But probably the
4 number one threat to the continued market acceleration
5 beyond even the rates we're at today is the fact that we
6 just don't have a reliable incentive program in place.
7 And so we really, really need that. And I'm worried about
8 the federal incentives. Actually I'm worried about much
9 more than that. Federal government.

10 (Laughter.)

11 MS. TUTT: But I also -- I just think it ought to
12 be a no-brainer that in California we would have a
13 reliable incentive program. So I just hope that you have
14 not forgotten that, and I'm sure you won't.

15 But I want to say, so thank you for your
16 consideration, and I hope that today turns out the way I
17 think we all hope it will turn out.

18 BOARD MEMBER SPERLING: Can I ask a question?

19 CHAIR NICHOLS: Yes, go head.

20 BOARD MEMBER SPERLING: What do you mean by a
21 reliable incentive structure? What would that be?

22 MS. TUTT: Well, we have a budget proposal. So
23 thank you, Dr. Sperling, for asking that question.

24 (Laughter.)

25 MS. TUTT: I think what we would like to see

1 ideally, not just for light-duty vehicles but for medium-
2 and heavy-duty vehicles, we would like to see 650 million
3 appropriated annually for the next five years either from
4 greenhouse gas reduction fund - so we definitely need to
5 reauthorize cap and trade - and/or through some sort of
6 tax incentive structure. That's our proposal. And I'm --
7 I will actually make sure you get a copy of it.

8 BOARD MEMBER SPERLING: Thank you.

9 CHAIR NICHOLS: Okay.

10 MR. HOUGH: Good morning, Chair Nichols and Board
11 members. I'm Merlyn Hough. I'm director of Lane Regional
12 Air Protection Agency in Lane County, Oregon. Lane County
13 is about the same size as Connecticut. But we --

14 (Laughter.)

15 MR. HOUGH: But we don't have level 2 chargers
16 every 20 minutes yet.

17 (Laughter.)

18 MR. HOUGH: We were formed in -- we're a local
19 air agency formed in 1968 under the Oregon statutes. I
20 won't repeat the written comments since it's really just
21 repeat -- supporting many of the things already said. We
22 strongly support the ARB staff recommendations. We're
23 very encouraged by the midterm evaluation and the midterm
24 review by EPA and the national highway traffic safety
25 folks and Air Resources Board. We're encouraged that

1 there's even more technologies available for manufacturers
2 to meet the 2022-2025 standards; more than we expected
3 back in 2012 and at similar or lower costs than estimated
4 back there.

5 I've also provided copies of more detailed
6 comments by the National Association of Clean Air
7 Agencies, so that's in the record. And as already been
8 stated, you know, the ZEV portion of your midterm review
9 is not just important for meeting California's goals but
10 also for the multi-state ZEV Action Plan states, the
11 Section 177 states that's been discussed already.

12 I'm also a member -- Lane Regional Air Protection
13 Agency's also a member of Drive Oregon, and I could try to
14 respond to that question from earlier. Leah Feldon and
15 Dave Nordberg from Oregon DEQ and I put our heads
16 together. There's so much happening with Drive Oregon.
17 Several initiatives in the Oregon legislature. But we
18 decided you were probably asking about the showcase center
19 that's being planned for downtown Portland. That's part
20 of a \$1 million grant from U.S. Department of Energy, a
21 multi-faceted outreach program. But that storefront
22 center is intended to complement the Electric Avenue
23 that's downtown already. There's several quick charging
24 and level 2 stations that are available right down there
25 by the Portland General Electric offices. That's the

1 other P.G.E. on the West Coast. And that is to provide
2 brand neutral sales folks able to provide ride and drive
3 opportunities and also long-term electric vehicle rental
4 and provide complete and balanced information as a major
5 part of that outreach. So if that was --

6 CHAIR NICHOLS: That was the question. It was,
7 yes. Thank you.

8 MR. HOUGH: So thank you for this opportunity.
9 And please keep up all your good work. We're very
10 appreciative of what you have done over the years. You've
11 reduced vehicle emissions and increased fuel economy.
12 It's -- you know, whether you're talking air toxics or
13 ozone precursors or greenhouse gases, transportation
14 emissions are a big deal.

15 Thank you.

16 CHAIR NICHOLS: Thank you.

17 Okay. I was just handed another whole page of
18 people who want to comment, so we'll move along.

19 MR. SHUMAKER: Good morning, Chair Nichols and
20 members of the Board I am Cory Shumaker, Project
21 Coordinator of the California Hydrogen Business Council, a
22 California industry trade association with a mission to
23 advance commercialization of hydrogen in transportation
24 and stationary applications to reduce greenhouse gases,
25 criteria pollutant emissions and dependence on oil.

1 The California Hydrogen Business Council would
2 like to voice its strong support for continuing
3 California's commitment to bring 1.5 million zero-emission
4 vehicles on California's roads by 2025, supported by
5 strong policies like the ZEV mandate. The CHBC sees
6 California's leadership as essential in accelerating the
7 transition to electric vehicles, including fuel cell
8 electric vehicles, which reduce air pollution and improve
9 public health specifically in disadvantaged communities.

10 The hydrogen and fuel cell community is showing
11 strong economic growth, stimulated by the policy framework
12 developed through California's commitment to clean and
13 emission-free technology for transportation and other
14 industry sectors.

15 The CHBC strongly encourages the Board to look
16 beyond the 2025 standards and start developing policy
17 recommendations especially for zero-emission vehicles and
18 infrastructure support for the post 2025 time frame.

19 Thank you.

20 CHAIR NICHOLS: Okay. Thanks.

21 MS. REYES: Good morning, Chair Nichols and
22 members of the Board. I'm Susana Reyes with L.A. Mayor
23 Eric Garcetti's Sustainability Team.

24 On behalf of the mayor, I am here to thank you
25 and your staff for the wonderful report. And I am here to

1 voice his support for your determination of the
2 appropriateness of the Clean Car Standards Midterm Review.

3 Los Angeles has a long history of some of the
4 greatest air quality challenges in the nation. Yet we
5 have come a long way, due in part to the work of the Air
6 Resources Board, and for that we are thankful. This
7 progress must continue. The mayor is absolutely committed
8 to clean vehicles. He has required that at least 50
9 percent of our annual city fleet procurement be pure
10 battery electric.

11 We have ensured that Los Angeles Department of
12 Water and Power offer generous residential and commercial
13 rebates for its charging stations. There are 1300
14 publicly available charging stations throughout the city,
15 beating our 2017 goal of 1,000. And we have partnered
16 with your agency to launch a new low income EV car share
17 in Los Angeles, and the grant will enable the
18 disadvantaged communities to access clean, pure electric
19 battery cars and to take advantage of 200 charging
20 stations in the pilot areas by the end of this year.

21 But L.A. is not alone in its commitment to clean
22 vehicles. With 29 other mayors across the country, Mayor
23 Garcetti recently issued an EV Request for Information,
24 and this EV RFI demonstrated to OEMs and manufacturers
25 that these 30 cities have over 114,000 vehicles that could

1 be electrified, representing over \$10 billion in potential
2 investment in EV sedans, trucks, and vehicles of various
3 types. We have received 37 responses to the RFI so far.
4 And that's a very encouraging sign that we can make this
5 happen.

6 So we applaud the Air Resources Board's efforts
7 to improve air quality and reduce greenhouse gas emissions
8 through increasingly robust clean-car standards that keep
9 California at the forefront of environmental protection
10 and innovation.

11 Thank you for this opportunity.

12 CHAIR NICHOLS: Thank you. Thanks to the city of
13 Los Angeles for all you guys are doing.

14 MS. PHILLIPS: Kathryn Phillips with Sierra Club
15 California.

16 As you can imagine, we're very disappointed by
17 what we're seeing at the federal level; so today, feels
18 very warm and welcoming. And we want to thank for
19 continuing your commitment to clean air and the ZEV
20 Program.

21 One of things that has helped prevent the level
22 of ZEV adoption that everything else points to meeting to
23 happen and that should happen and that could happen is the
24 actions by the automakers and the dealers themselves in
25 their lack of applying best practices in this sales of

1 vehicles.

2 Recently, last spring Sierra Club volunteers --
3 Sierra Club put together a report where we basically did a
4 shopping experiment. And 174 volunteers around the
5 country in the ten ZEV states visited 308 dealerships.
6 And some of the things they found are pretty discouraging.
7 When you consider how much effort has gone into making
8 sure that the technology is right, we still have not been
9 able to rely on the auto dealers and the automakers to
10 work as well together as they need to to sell these
11 vehicles and make them available.

12 Nearly half the time EVs were not prominently
13 displayed or were often hard to find. They were hidden
14 some place on the lot if they were there at all. Sales
15 people failed to mention state and federal incentives, and
16 those can be a big draw for EVs.

17 Some of the cars couldn't be test driven because
18 they weren't charged. That was in 14 percent of the
19 cases. When you're talking about 388 dealerships --
20 rather 308 dealerships, 14 percent is pretty high. Can
21 you imagine going in to drive a gasoline-powered SUV and
22 them saying, "I'm sorry, we don't have any gas in it. You
23 can't try it"?

24 (Laughter.)

25 MS. PHILLIPS: Only half the time sales people

1 told these shoppers how to charge the vehicle while
2 traveling. So they were left with the impression that you
3 either had to stay in your neighborhood or be at a big
4 disadvantage.

5 Another interesting thing is that the dealers
6 themselves had complaints. Sometimes the automakers
7 charge these certification fees. Some automakers don't
8 charge them. But one dealer complained about being
9 charged \$50,000 to do -- for a certification fee. So
10 because of that we wouldn't carry EVs.

11 So I think, in conclusion, that the automakers
12 and the auto dealers themselves can do a much better job
13 of making sure that these vehicles sell.

14 Thank you.

15 CHAIR NICHOLS: Thanks.

16 We have -- excuse me, before you speak. We just
17 got one more card in. And I think that's it, we're going
18 to cut off any additional witnesses at this point. We've
19 got a robust discussion here.

20 Thanks.

21 MS. ADAMS: Hi. My name is Kitty Adams. I'm the
22 Executive Director of Adopt a Charger. And I'm grateful
23 that I can be here today to thank CARB for the ZEV
24 mandate. I want to encourage you to continue this work,
25 you know, beyond 2030.

1 And I also wanted to just comment because -- in
2 response to some of the automakers' presentations
3 specifically about range anxiety. I'm on the front lines
4 of trying to sell cars, and I really hear more about lack
5 of appropriate body style than range anxiety. I jokingly
6 say to people when the Ford F-150 comes with a plug, I can
7 retire because these cars are going to sell themselves.
8 So I just want to make sure that we encour -- do
9 everything we can to encourage the automakers to offer
10 zero-emission vehicles across the whole range of their
11 offerings.

12 And also too is really alarming for me to see the
13 presentations from Connecticut and Maryland and
14 Massachusetts and -- where they have -- they're
15 participating but they don't have the cars to sell. So if
16 there's anything California can do to force the issue and
17 make the automakers make these cars available in all 50
18 states, I think that would be a very advantageous
19 direction to move in.

20 Thank you.

21 MS. HOLMES: Good morning. I'm Laurie Holmes,
22 Senior Director of Environmental Policy for Motor and
23 Equipment Manufacturers' Association, or MEMA.

24 MEMA represents more than 1,000 companies --
25 motor vehicle companies that supply motor vehicle

1 companies -- sorry -- 1,000 companies that supply motor
2 vehicle components for use in the original-equipment and
3 aftermarket industries.

4 Motor vehicle suppliers play a significant role
5 in developing innovative materials technologies that
6 improve vehicle performance, fuel efficiency and
7 emissions, and are committed to environmental policies
8 that enable the introduction of new technologies.

9 MEMA supports ARB's continued alignment with the
10 national program by maintaining that deem-to-comply
11 provision allowing for compliance with the adopted EPA
12 greenhouse gas national standards. This deem-to-comply
13 provision is extremely important to the success of the
14 national program.

15 MEMA strongly supports consistent greenhouse gas
16 standards at the state and federal level and urges
17 California to continue to focus on collaborating with EPA
18 and NHTSA on a harmonized true national program. A
19 harmonized national program provides long-term regulatory
20 clarity and certainty that are critical for suppliers to
21 make the necessary long-term business and technology
22 investment decisions.

23 MEMA supports the conclusion of ARB to maintain
24 the phase-in of the 1 milligram per mile PM standards
25 starting in model year 2025. Maintaining that standard

1 provides regulatory certainty necessary for MEMA's members
2 to commit the requisite research and development to assist
3 manufacturers in meeting future regulations cost
4 effectively.

5 As we've also heard in the other comments, MEMA
6 urges ARB to provide further flexibility in the ZEV
7 mandate. So further flexibility for the plug-in hybrids
8 by allowing OEMs to comply with more PHEVs than what is
9 currently allowed in the regulations through model year
10 2025. MEMA believes that PHEVs can serve as the
11 successful transition to ZEV technology by appealing to a
12 broader market, especially under the current market
13 situation.

14 MEMA would also support ARB working with industry
15 to develop an additional test cycle similar to the one
16 described in appendix H to measure PHEV tailpipe criteria
17 emissions more thoroughly. This additional test cycle
18 could then be used to provide additional ZEV Program
19 performance-based credits that incentivize tailpipe
20 criteria emissions controls technology for PHEVs, which
21 would provide incentives that would move the ZEV Program
22 to more fair, balanced, and performance-based driven
23 standards and solutions.

24 Thanks for your time.

25 MR. BOESEL: Good morning, Chairman Nichols and

1 members of the distinguished California Air Resources
2 Board. My name is John Boesel. I'm the President and CEO
3 of CalStart.

4 I want to make clear it's Boesel, not Boesella.

5 (Laughter.)

6 MR. BOESEL: We are a national nonprofit
7 organization working to build the clean transportation
8 technologies industry as a strategy to produce -- provide
9 high quality jobs, improve public health, and prevent
10 global warming. Though our members are working on a wide
11 array of technologies and fuels, they all share a common
12 belief that innovation can solve our challenges.

13 I'm standing here today to strongly endorse the
14 staff recommendations while wishing there was an
15 opportunity to do even more.

16 Looking back to 2012 when the Advanced Clean Car
17 Programs was adopted, it's impressive to see how much
18 progress and innovation has occurred, in large part due to
19 joint policies of the ARB, EPA, NHTSA, and the Section 177
20 states.

21 I want to describe the progress and why we
22 support the staff recommendations with the following four
23 points:

24 First of all, California is now the home to three
25 emerging light-duty electric vehicle manufacturers;

1 Faraday Future, Karma Automotive, and Tesla Motors. These
2 companies are here because California is where the action
3 is and because of ARB's policies. This is also where a
4 lot of great talent is.

5 Tesla is now the largest manufacturer in the
6 State of California, period, end quote -- or stop -- hard
7 stop.

8 (Laughter.)

9 MR. BOESEL: Tesla has 22,000 employees in its
10 combined operation with Solar City in the state of
11 California. There are a lot of other states that would
12 kill for -- to get those job.

13 Charge Point, the nation's largest EV charging
14 company, is also based here in California.

15 California is also home to the U.S. headquarters
16 and operations of BYD, who presently focus on electric
17 buses and trucks in the United States. BYD was the
18 largest manufacturer of electric cars in the world in
19 2016, and submitted a letter yesterday strongly endorsing
20 the staff's recommendations and the ZEV targets.

21 Since 2012, when the program was announced, it's
22 also been very exciting to see how the global automobile
23 industry has moved in mass to Silicon Valley. Not
24 including Tesla or your traditional mechanics and dealer
25 jobs, there are probably 4,000 new jobs related to the

1 automotive industry in the Silicon Valley alone that have
2 occurred since 2012.

3 Secondly, the ZEV technology, the technology has
4 improved incredibly since 2012. We've seen basically the
5 same battery pack in the -- at the same price in 2012 is
6 now -- and you can go from 75 miles to 230 miles in that
7 same pack. I want to give General Motors a lot of credit
8 for what it's done.

9 Also, per -- a study we did on Tier 1
10 suppliers -- shoot.

11 (Laughter.)

12 MR. BOESEL: They are very committed to investing
13 in the future of technology.

14 So let me just wrap it up even though I had a few
15 more points, which I'll submit in writing, is that we see
16 at least four OEMs right now between Faraday Future, BYD,
17 Volkswagen -- or at least three willing to say that they
18 support the standards. And that was something that was
19 very different from 2012.

20 And then some very strong comments by BMW CEO
21 basically saying that by 2025 they see 15 to 25 percent of
22 all sales being electric vehicles, which is basically an
23 endorsement of the standard as well.

24 Thank you very much.

25 MS. KINMAN: Good morning. If only that dolly

1 were as smooth a drive as my EV, I'd be in a good spot
2 this morning.

3 My name is Michelle Kinman, and I'm the clean
4 energy advocate for Environment California Research &
5 Policy Center. And I'm very pleased to present some of
6 the more than 10,000 petitions that Californians all
7 across the state have signed expressing strong support for
8 the ZEV mandate. These petitions were gathered by
9 organizations representing the environmental, public
10 health, scientific, consumer, and faith communities,
11 including the American Lung Association in California, the
12 Coalition for Clean Air, CalPIRG students from UCLA and UC
13 Riverside, California Interfaith Power & Light, Plug In
14 America, Sierra Club California, the Union of Concerned
15 Scientists, Environment California.

16 This diverse set of voices is united behind the
17 following petition statements, quote: Yes, I want more
18 zero-emission vehicles on the road and support strong
19 policies like the ZEV mandate that will lead to at least
20 1.5 million ZEVs on California's roads by 2025. By
21 accelerating the transition to electric vehicles we can
22 clean up our air and improve public health, especially in
23 our most disadvantaged -- or, excuse me -- polluted
24 communities; reduce global warming pollution; save
25 Californians money at the pump; and stimulate economic

1 growth, end quote.

2 I would like to thank the ARB for your long
3 leadership on clean vehicles. Now more than ever, with
4 the administration in DC threatening to put the brakes on
5 cleaner vehicles, your continued leadership is essential,
6 and we urge you to enact more stringent standards now and
7 in post 2025.

8 On a separate but complementary note I would also
9 like to present a letter prepared by my colleagues at
10 Environment America to President Trump and signed by more
11 than 1100 public health professionals nationwide urging
12 the administration to make climate change a top priority,
13 including, quote, ensuring that the U.S. maximizes
14 reductions in automobile pollution and fuel consumption by
15 setting the strongest possible fuel economy and greenhouse
16 gas standards for automobiles, while encouraging policies
17 and incentives for zero-emission vehicles to fully
18 transition our transportation sector to zero carbon
19 pollution, end quote.

20 So I think you can see that you have a lot of
21 different constituencies that have your back on
22 accelerating the transition to a zero-emission vehicle
23 future.

24 Thank you.

25 MS. DRUFFEL: Good morning, Chair Nichols and

1 Board members and ARB staff. I'm here on behalf of the
2 faith community. I am Allis Druffel, and I work with
3 California Interfaith Power & Light. And I am here for
4 the strong recommendation for the ZEV mandate, for it to
5 be kept as strong as possible.

6 I'd also like to say to the auto industry
7 representatives in this room: Thank you so much for your
8 strides in creating fantastic vehicles that clean our air,
9 save money at the pump, and strengthen our economy.

10 And at the same time, to the industry
11 representatives and ARB: Automakers are challenged to
12 continue their excellent process in creating cleaner
13 vehicles. Do not turn back based on temporary low gas
14 prices. We have to remember why we are here right now.
15 We are here because we are in a planetary crisis. People
16 are actually suffering from multiple illnesses and dying.
17 We have 5200 premature deaths in the South Coast air
18 quality alone due to poor air quality. So we're at a crux
19 here when we recognize that the planet is in crisis and
20 that there are far too many people that are sick and dying
21 from pollution sources.

22 So ARB and industry: We need you really badly
23 right now. You have the technology, the know-how, the
24 committed wonderful workers to make a cleaner California
25 and nation happen.

1 And I'd just like to include that Interfaith
2 Power & Light is in 40 states and the District of
3 Columbia, and we are actively advocating to our members
4 about consumer demand for electric vehicles and for the
5 installation of charging stations.

6 And I have 400 more petitions here in this bag,
7 whoever wants it.

8 So --

9 CHAIR NICHOLS: Give them to the clerk please.

10 MS. DRUFFEL: Okay. Great.

11 Thank you so much.

12 MR. LEWIS: Good morning, Chair Nichols and Board
13 members. My name is Mike Lewis. I'm with Pearson Fuels
14 out of San Diego. Some of you may have heard of us. But
15 a real quick rundown.

16 We started, we built a gas station, a fuel
17 station in San Diego back in 2003, 14 years now. And it
18 had a lot of different alternative fuels, first time in a
19 lot of places. We had biodiesel, we had propane for
20 vehicles, two pressures of natural gas, six electric
21 chargers in E85. The first E85 pump on the West Coast in
22 the United States. And that station struggled very badly
23 for -- in fact, it lost money for seven years in a row.
24 And one of the things that kept us going was that several
25 years into that the Air Resources Board came up with a

1 program to promote alternative fuel infrastructure around
2 the state. And we ultimately got I think \$1.3 million to
3 build E85 sites around the state. And then we went on to
4 get funding to build a couple biodiesel terminals. We've
5 helped develop a hydrogen station; I have few more in the
6 works. We got some funding from the Air Resources -- or
7 from California Energy Commission to build more E85 sites.
8 And now we have -- we supply 88 E85 stations around the
9 state of California.

10 And it works. We have major gasoline station
11 chains contacting us. We -- to do E85. We -- the public
12 buys a lot of E85. We have a record number of stations,
13 record number of volume sales almost every month. And
14 it's been very successful. We've opened seven this year
15 already. 2017 we've opened seven, including San
16 Bernardino, Fontana, Fresno, Chula Vista. A lot of these
17 locations are in the -- they score highly on EnviroScreen,
18 as they're supposed to with AB 197. And they don't cost
19 any more, the vehicles don't cost any more, so the
20 consumer doesn't have to pay any more for the vehicles and
21 oftentimes saving money on the fuel.

22 And so what I want to recommend to you is that
23 you reconsider in the midterm review the greenhouse gas
24 conclusions. Because obviously, God knows what the feds
25 are going to do, and you don't want to leave it all in

1 their hands. And I would suggest to you that the state's
2 invested \$15 million building E85 sites. And I thought as
3 a gas station owner I was doing what I was supposed to.
4 Because it was my -- the funding that you guys put there
5 initially that kind of kicked it off. And I'm not asking
6 for any more funding. The E85 industry doesn't need any
7 more funding, and the self-sustainable it has about a 20
8 percent greenhouse gas reduction. And I'd ask you to keep
9 that midterm review open so that flex fuel vehicles could
10 continue to be incentivized or at least not
11 disincentivized.

12 Thank you for the time.

13 MR. LEVIN: Good morning. My name is Joe Levin,
14 and I'm the Executive Director of Plug In America. We're
15 the national voice of the EV driver. And I'm here to make
16 sure that the voices of EV drivers in California, in the
17 other ZEV states, and all over the country are heard in
18 today's discussion.

19 The basic truth is that electric drive is a
20 better way to move cars around and that people love these
21 cars. They like the way they drive. They like the
22 convenience of being fully fueled each morning and never
23 having to go to the gas station. They like not having to
24 think about maintenance. They like keeping their fuel
25 dollars local, instead of sending them half way around the

1 world. And they like keeping their air clean when they
2 drive.

3 People want to buy these cars.

4 The main complaint that we hear about these cars
5 is that the availability is so limited in much of the
6 country. More than 30 models are now available in
7 California. But in many states you can find only a
8 handful of electric vehicles.

9 We've put on dozens of ride-and-drive events
10 around the country. But outside of California we have a
11 chronic problem of finding enough cars for our events.
12 People show up. They want to test drive EVs. And
13 sometimes there are not enough cars for the demand.
14 People wait around and then after 30 or 45 minutes they
15 give up and they go home. So that's another reason we
16 feel very strongly about keeping the ZEV rule strong.

17 I have in my hand here letters from 88 mayors and
18 city council members from most of the major cities in the
19 other ZEV states. Because we have a short time, I won't
20 list all the cities, but there's 88 cities. And I also
21 have letters from 32 different state legislators from all
22 of those states. These have all been submitted already
23 into the record.

24 And these are people that represent literally
25 millions of their constituents that are asking for a

1 stronger ZEV -- a strong ZEV rule that will put more
2 electric vehicles on the streets of their cities and make
3 them more available for their constituents so they can buy
4 or lease them.

5 So I'm happy to make sure that their voices are
6 heard here today. And I want to support the staff
7 recommendations. I hope that you do as well, and make
8 sure that these cars are available for people to purchase
9 everywhere.

10 Thank you.

11 MS. PIERCE: Good morning, Chair Nichols and
12 members of the Board. I'm a member of an EV club, the
13 Electric Vehicle Association of Southern California. When
14 I moved to Orange County from out of state in the late
15 spring 1979, I kept getting lost on the freeways. Friends
16 kept telling me to get my bearings; remember, the
17 mountains are to the north. I kept looking at them.
18 Mountains? What mountains?

19 About eight months later, after some heavy rain,
20 I finally saw the mountains. They were beautiful.

21 The smog was always so bad back then, the
22 mountains were hardly ever visible. Thanks in part to
23 emission restrictions, that is no longer the case.

24 In 1989, I moved to the Inland Empire with my
25 youngest -- when my youngest daughter was less than a year

1 old. I felt a lot of guilt for that move when she
2 developed asthma. We could liter -- from where we lived,
3 we could literally watch as the smog rolled in from L.A.
4 throughout the day.

5 My older girls in school had to forego outside
6 activities on those smog days when the air was deemed
7 unhealthy. It happened a lot when they were younger. But
8 as the years progressed, it happened less frequently.

9 We all know that the Southern California region
10 has some of the worst traffic congestion in the country.
11 The emissions from all that traffic causes so much health
12 problems to everyone. Placing restrictions on emissions
13 reduces the brown air and the health problems.

14 The easiest way to reduce emissions is to
15 drive -- the easiest way to reduce emissions is to drive
16 zero-emission vehicles. The requirements that California
17 has developed over the years to ensure reduced emissions
18 has had a positive effect not only in California, but
19 across the country and even the world. More countries are
20 developing zero-emission vehicle requirements due to the
21 advances in technology developed because what California
22 started.

23 Please do not regress in this fight. If
24 zero-emission policy is abandoned, or emission
25 requirements are relax, the air will once again be brown

1 every day and overall health of residents will decline.
2 If we lose site of California's zero-emission goals, we
3 will also fall behind in technological advancements that
4 countries like China are developing.

5 I drive a 2012 Leaf -- Nissan Leaf and it's so
6 fun to drive. It is quiet and fast off from the stop.
7 When I first got my car, there were not a lot of choices.
8 Thanks to all the progressive California rules, there are
9 many zero-emission vehicles available now and more
10 developed all the time. Please keep moving forward.
11 Don't go backwards.

12 Thank you.
13 (Applause.)

14 CHAIR NICHOLS: Thank you.

15 DR. REICHMUTH: Chair Nichols and members of the
16 Board. My name is David Reichmuth and I'm speaking on
17 behalf of the Union of Concerned Scientists. And thank
18 you for taking the time today to listen to myself and all
19 the other stakeholders that have come here today.

20 I'd also like to thank staff for their work on
21 the midterm review. It's a comprehensive document. It's
22 technically sound, and it will serve you well as you make
23 this decision on how to proceed with the ZEV regulations.

24 We support the staff's recommendations in the
25 midterm review to remain -- to keep the Advanced Clean Car

1 Program as is through 2025. We submitted detailed
2 comments on this, so I just want to hit just one or two
3 items to pull out from those comments.

4 Staff recommends making no changes to the ZEV
5 Program in California and the 177 states. We agree. The
6 ZEV Program has been successful in bringing zero-emission
7 vehicles to the state and giving many Californians the
8 option to buy a cleaner and, frankly, better alternative
9 to a gasoline vehicle.

10 Now, in the comments submitted some of the
11 automakers have suggested that changes are needed to the
12 program especially regarding implementation in the 177
13 states. They point to the lower sales in the East Coast
14 177 states as compared to California, showing the
15 inability to sell these ZEVs on the East Coast. This
16 ignores several important factors under the control of
17 automakers, the most important being ZEV model
18 availability and ZEV inventory availability.

19 In part due to the travel provision as we heard
20 from the representative from Massachusetts, some
21 automakers have not sold certain ZEVs on the East Coast.
22 One example is the Fiat 500E BEV, which is available only
23 in California and Oregon, despite the fact that it's sold
24 over 5,000 units here in California the last three years.

25 Other models have substantially lower inventory

1 available. So they're technically available in the 177
2 states on the East Coast, but functionally they're
3 unavailable.

4 We at UCS did a study on this issue. We found
5 that when you looked at the availability in different
6 cities, there are stark differences. In Boston there's
7 about 90 percent fewer ZEVs on average available than in
8 the Oakland Bay Area.

9 And that is includ -- that's -- that holds even
10 when you take into account the differences in vehicle
11 ownership between these cities.

12 Simply put, car buyers can't buy cars that aren't
13 there, and they won't consider those that they can't see
14 and test drive at dealerships.

15 Now, we also agreed that staff -- that ARB should
16 ask staff to begin the process of developing ACC standards
17 for post 2025. We know that we're making progress in
18 reducing emissions, improving air quality. But that
19 progress needs to not just continue, but it needs to
20 accelerate after 2025.

21 California has clear targets for lower emissions,
22 and the ARB should start the work of bringing all
23 stakeholders into the process of designing policies to
24 achieve those goals.

25 Thank you.

1 CHAIR NICHOLS: Thanks.

2 MS. HEARTQUIST: Hello. My name is Christina
3 Heartquist, and I'm speaking today on behalf of Jack
4 Gillis, auto expert and author of the Car Book, and Mark
5 Cooper, Director of Research, both of the Consumer
6 Federation of America, a national association of over 250
7 nonprofit organizations working to advance the interests
8 of American consumers.

9 For consumers, California's Clean Cars Program
10 saves money and strengthens local economies. So the Trump
11 Administration's decision to rescind EPA's final
12 determination on fuel economy standards makes California's
13 clean car leadership more important than ever. The work
14 you do is federalism at its best.

15 California's current standards are anchored in a
16 joint agreement reached by automakers, Washington, and
17 Sacramento; and CFA urges CARB to stay the course.
18 Because 12 other states and the District of Columbia have
19 adopted California's standards, your decision today will
20 affect whether 113 million Americans will be able to buy
21 cleaner cars, save money at the pump, and breathe cleaner
22 air.

23 Most importantly, consumers strongly support what
24 CARB has been able to accomplish. At CFA our polling
25 consistently shows that the overwhelming majority of

1 Americans - Republicans and Democrats - from the nation's
2 heartland to the coasts - supports making cars run on less
3 gas and pollution because it drives savers money -- it
4 saves drivers money.

5 Under the Clean Air Act, California and the other
6 clean car states have the right to set their own standards
7 and protect their own air quality. This is an important
8 right, has been recognized for decades, and has been
9 protecting both lungs and pocketbooks ever since.

10 These 13 states and the District of Columbia
11 represent some of the most vibrant economies in the
12 country. When consumers can spend less on gas, they spend
13 more on local goods and services. This builds the economy
14 and communities across the nation instead of exporting
15 money to out-of-state and foreign oil interests. Clean
16 car standards have generated economic growth in jobs
17 across the nation by spurring the development and
18 manufacture of advanced efficiency technologies, and
19 California's zero-emission vehicle program has driven
20 development of some of the cleanest cars on the planet.

21 For consumers, ZEV makes it possible to disengage
22 entirely from the volatile oil market and avoid stopping
23 at the gas station ever again.

24 Years of analysis and input from automakers,
25 advocates in governments, and other stakeholders have

1 shown that current clean car standards are achievable and
2 cost effective for automakers and consumers. Our work at
3 CFA backs up these findings.

4 We have exhaustively studied the economics of
5 clean cars and there is absolutely no question that from
6 the perspective of individuals, families, and businesses
7 that buy or lease, car owners benefit from the minute they
8 drive off the lot.

9 As we'll clearly demonstrate in our written
10 testimony, robust clean vehicle standards are good for
11 consumers. Without strong state leadership from
12 California and the states that have adopted CARB
13 standards, consumers will be saddled with less efficient,
14 more costly, and greater polluting cars and trucks. With
15 California's leadership, these 113 million Americans will
16 save gas, money, breathe better air, and have access to a
17 broad array of cleaner, more efficient vehicles.

18 On behalf of consumers across America, the
19 Consumer Federation of America urges CARB to stay the
20 course.

21 CHAIR NICHOLS: Thank you.

22 MS. MOELLER: Good morning. My name is Jennifer
23 Moeller, and I come before you today as a mother on behalf
24 of Moms Clean Air Force and a concerned citizen.

25 When it comes to caring for my children from a

1 mother's perspective, there is nothing more important than
2 health and safety. As a mom living in Los Angeles, health
3 issues stemming from air pollution is very concerning.

4 The traffic congestion and smog is a large
5 ongoing problem for many of us moms as we run our kids
6 from one activity to another. In fact, all drivers are
7 impacted by both the heartache and headaches of sitting in
8 traffic for prolonged periods of time and taking in all
9 that unnecessary smog into our lungs.

10 For children, this is especially concerning, as
11 it impacts those young developing lungs and bodies even
12 more. This is why I am here today, to urge you as
13 California's leadership council to act on moving forward
14 with the California Advanced Clean Cars Program, and
15 here's why:

16 California has led the way on clean air policies,
17 making it the first state to develop a regional air
18 pollution control district in 1947 to address the many
19 ongoing crucial and health affecting air quality problems
20 in Los Angeles.

21 Congress subsequently adopted a new provision of
22 the CAA section 177 allowing other states to opt into
23 California's vehicle emission standards, which means a
24 large number of states have opted into California's
25 standards over the years, and since then 12 have opted

1 into our LEV and ZEV standards, overall representing 35
2 percent of cars sold in the U.S.

3 Mainly California's economy has grown
4 simultaneously as the state's leader in harmful-emissions
5 reduction. Of California's 19 areas that once exceeded
6 either the one-hour or original eight-hour ozone
7 standards, only four still exceed those standards today.

8 Even the South Coast and San Joaquin Valley, two
9 areas of the state that face the nation's most critical
10 air quality challenges, have seen significant progress.

11 Clean air progress in California has occurred at
12 the same time the state population has increased by over
13 25 percent and the economy has continued to grow.

14 California is the world's sixth largest economy,
15 and the job growth in the state has outpaced the national
16 rate, all while adopting the nation's most protected air
17 quality policies.

18 I am the mother of three beautiful children under
19 the ages of 6. So when it comes to health and the
20 environment, I can't stress enough how passionate I am
21 about clean air, which means standing for zero-emission
22 vehicles and a Clean Cars Program to support it.

23 This not only benefits our state as a whole but
24 our environment by making a significant cut into our smog,
25 lessening asthmatic resulting health diagnoses in our

1 children, and creating a longer lasting planet for our
2 future. Lets work together to make a difference, not just
3 for us, but for our children.

4 Thank you, Board members, for your time and
5 consideration.

6 CHAIR NICHOLS: Thank you for being here.

7 I'm a fan of yours on social media. I follow
8 you.

9 (Laughter.)

10 CHAIR NICHOLS: Okay. I think we should -- I'm
11 sorry because you just got up here. Maybe we'll want to
12 take one more witness. But we've been going since 8:45.
13 Our court reporter hasn't had a break, and I think we want
14 to continue this item through to the final conclusion
15 before we break for lunch, and then break for lunch.

16 So let's take a 10-minute break, 10-minute break.
17 Will you be okay with that?

18 All right. We'll bring you back up in 10 minutes
19 then. Thank you.

20 (Off record: 11:59 a.m.)

21 (Thereupon a recess was taken.)

22 (On record: to 12:15 p.m.)

23 CHAIR NICHOLS: All right, everybody, please
24 settle down.

25 We want quiet for our witness.

1 Okay.

2 MS. HERZOG: Should I go ahead?

3 CHAIR NICHOLS: Yes, Ms. Herzog, you can go
4 ahead.

5 MS. HERZOG: Thank you.

6 Good afternoon. My name is Megan Herzog. I'm an
7 attorney at the Conservation Law Foundation, or CLF.
8 Founded in 1966, CLF is a member-supported nonprofit that
9 uses law, science, and economics to tackle the
10 environmental problems that threaten New England. We work
11 in five ZEV states - Massachusetts, Vermont, Maine, Rhode
12 Island, and Connecticut.

13 I traveled all the way from Boston to represent a
14 broad coalition of ZEV state environmental advocates and
15 residents who strongly support the ZEV Program. I have
16 here more than 700 letters from people who want more EVs
17 to be sold in New England.

18 I also bring a letter signed by 34 public
19 interest organizations that are actively promoting ZEVs in
20 the northeast and the mid-Atlantic.

21 Our organizations have helped achieve a number of
22 major successes in our states, including rebate and grant
23 programs for EVs, multiple new statutes and utility
24 commission policies, and thriving public education
25 programs.

1 These initiatives and many others are driving
2 increased adoption and awareness of EVs in our region.
3 And we are committed to advocate for further progress, but
4 we need your help.

5 Transportation is our region's single largest
6 source of greenhouse gas emissions. And they are critical
7 to meeting our ambitious climate requirements as the ZEV
8 program. For instance, Massachusetts Global Warming
9 Solutions Act requires emissions reductions of 25 percent
10 below 1990 levels by 2020, and 80 by '50. Vermont is even
11 striving for 95 by '50. Our states may be smaller but we
12 have mighty goals, and we will not submit to false claims
13 by industry. We want to drive electric.

14 Rhode Island, which is roughly the size of
15 Yosemite Park --

16 (Laughter.)

17 MS. HERZOG: -- nonetheless offers \$2500 in a
18 rebate for an EV purchase.

19 Connecticut has a population on par with Fresno
20 County, but boasts nearly 350 EV charging stations.

21 And in Massachusetts, which is comparable to the
22 Bay Area, utilities are pursuing \$70 million worth of
23 investments in EV infrastructure.

24 Section 177 states are proud to stand with
25 Californians as clean energy leaders, and we thank the

1 Board for all that you've done to advance the EV
2 marketplace in our states.

3 We will continue to defend our states' rights to
4 regulate climate pollution and air quality and to defend
5 public health in our states. And we urge you to move our
6 shared legacy forward and stay firm on your commitment to
7 strong clean car standards for our states.

8 We look forward to continuing to support
9 implementation of the ZEV Program.

10 Thank you.

11 CHAIR NICHOLS: Yes, go ahead, Ms. Riordan.

12 Wait just a second, if you would.

13 BOARD MEMBER RIORDAN: I just have a quick
14 question. And, that is, in your states, do you find it
15 difficult to find an EV to try out and to use? Is that a
16 problem for your states or not? Are they plentiful or
17 not?

18 MR. HERZOG: No, it's absolutely a problem, as I
19 believe you heard from other testifiers before. There
20 have been studies where folks have gone to dealerships in
21 attempts to drive EVs and often they're not charged or
22 they're not available or they're models that just aren't
23 sold in our states.

24 And so I think these letters show that people
25 want more EVs. We'd love to have the option.

1 BOARD MEMBER RIORDAN: Have you followed up at
2 all with the dealers to inquire why more aren't available?

3 MS. HERZOG: We do engage in a lot of dialog with
4 the dealers, and we're continuing to work with them. But
5 I think the ZEV Program regulations and end of "travel"
6 will be essential to getting more cars on our states.

7 BOARD MEMBER RIORDAN: Thank you.

8 MS. HERZOG: Thank you.

9 CHAIR NICHOLS: Supervisor Serna, did you have --
10 oh, no. Sorry.

11 All right. Go ahead.

12 (Laughter.)

13 CHAIR NICHOLS: I wanted to take this moment
14 because I hadn't had a chance earlier to introduce our
15 newest member of our senior executive team at ARB, who
16 happens to be from -- most recently from Massachusetts and
17 from your organization, where she became known nationally
18 as a leader in the environmental justice community. And
19 she is now our assistant executive officer for
20 environmental justice. And she's standing right there to
21 wave to everybody.

22 Veronica Eady.

23 Veronica.

24 (Applause.)

25 CHAIR NICHOLS: Welcome. It's just -- it's

1 really great to have -- Veronica, to have this new
2 position, and to have her here when we're considering
3 these issues which are so important to all of us.

4 So thank you for giving me the opportunity to
5 piggyback.

6 MS. HERZOG: Thank you.

7 MS. SMART: Hi, Chairwoman Nichols and members of
8 the Board and CARB staff. My name is Anne Smart and I'm
9 the Vice President of Public Policy for Charge Point.
10 We're the largest network of EV charging stations in the
11 world. Right now we have more than 18,450 charging ports
12 here in California and 33,000 across the country.

13 I'm here today to congratulate staff on a great
14 report, and continue to support our current path towards
15 2025. For us in the charging station industry, it's
16 really important that we have this regulatory certainty.
17 It helps us know what the projections are going to be for
18 EV sales, helps us size our own investments, helps us
19 figure out range on our technology. It really helps to
20 make sure that we have our own consistent market along
21 with the EVs that are out there.

22 In addition to continuing on the current path, we
23 also want to make sure that we continue to get rid of the
24 "travel" provision for BEVs. For us it is also important
25 that we move forward with getting as many EVs as possible

1 in the non-California ZEV states. We're doing our part to
2 put infrastructure there, it has been said by several
3 people. But demand for EVs help drives demand for
4 charging stations. And though it is a chicken-and-egg
5 issue, if we can get more cars and dealerships there, we
6 can also get more charging stations in the ground.

7 Beyond 2025, Charge Point supports creating an
8 additional goal along the lines of what staff recommended.
9 However, we encourage that as this new regulation is
10 developed, that CARB work with automakers, charging
11 infrastructure providers, and other stakeholders to set
12 this goal so that it's both ambitious yet achievable
13 beyond 2025.

14 Aligned with that we also think it would be
15 important if this state were to set a charging station
16 goal. I have put this in writing a few times now. But I
17 do think that as we are figuring out how much charging
18 infrastructure we need to support these vehicles, that you
19 have a number in mind or at least a goal or a target.
20 I've suggested based on NREL numbers a goal of one public
21 charging station for every five electric vehicles - NREL
22 is the National Renewable Energy Laboratory - that we
23 should have a goal of one public charging station for
24 every five electric vehicles on the road. That would
25 include level 2 and DC fast chargers. Or in order to make

1 sure that our charging stations are located throughout the
2 state, it's not just in coastal areas, perhaps a goal per
3 mile of one charging station every 30 miles might be a
4 more appropriate goal to set.

5 But as we're looking for what happens beyond
6 2025, it would be great to work with CARB to set some sort
7 of charging station goals so that we're all on the same
8 page as to how many charging stations we need and whether
9 or not we're there or falling behind.

10 Lastly, for us we think it's incredibly important
11 that we continue to support ZEV adoption in disadvantaged
12 communities. For the charging station industry, it's
13 really important that we also have vehicles in those
14 communities that we're working to get more investments
15 there. And we look forward to working with CARB to make
16 sure that happens.

17 Thank you.

18 MR. WUNDER: Chair Nichols, members of the Board,
19 my name is Andy Wunder. I'm the manager in CERES
20 California program. CERES is a nonprofit organization
21 advocating for sustainability leadership. We mobilize a
22 network of 39 leading U.S. companies representing over
23 \$400 billion in annual revenue. These companies are
24 committed to advocating for the adoption of meaningful
25 energy and climate policy. This group is called BICEP,

1 Business for Innovative Climate and Energy Policy. This
2 group includes many California-based companies such as
3 Levi Strauss, eBay, and Dignity Health.

4 I am here on behalf of BICEP to show business
5 support for Air Resources Board staff recommendations
6 detailed in the summary report for the Advanced Clean Car
7 Review -- Midterm Review.

8 I'd also like to strongly voice BICEP's support
9 for California's authority to adopt and implement its
10 advanced clean car regulations. Regarding greenhouse gas
11 emission standards, we support continuing California's
12 participation in the national program.

13 However, if EPA's greenhouse gas standards are
14 significantly weakened, we urge ARB to assess the need to
15 adopt new stronger standards. Strong standards provide
16 critical reductions in greenhouse gas emissions needed to
17 ensure California meets its 2030 climate goals. Strong
18 standards benefit consumers, businesses, and the economy,
19 as money saved on gas is diverted to consumer spending.
20 And strong standards drive innovation and investments in
21 advanced vehicle technology necessary to keep American
22 companies competitive in the global economy.

23 Regarding California's Zero-emission Vehicle
24 Program, we support staff recommendations to strengthen
25 the ZEV Program post 2025 to ensure the program meets its

1 intended goals. Reaching these goals are key to
2 California's meeting its clean air and climate and public
3 health goals.

4 In addition to reducing environmental public
5 health impacts, a strengthened ZEV Program provides key
6 bottom-line business benefits. The ZEV Program is
7 creating a robust market and reducing ZEV purchase costs
8 for corporate fleets. This helps fleet managers
9 transition to cheaper-to-fuel electric vehicles and avoid
10 petroleum fuel price volatility.

11 Regarding particulate matter emission standards,
12 we support maintaining the stringency of the 1 milligram
13 per mile particulate matter 2025 emissions standard. This
14 drives strong climate health benefits and will ensure
15 healthcare cost savings and increase productivity in
16 California's economy.

17 In summary, BICEP strongly supports ARB staff
18 recommendations to maintain the Advanced Clean Cars
19 Program as outlined.

20 Thank you very much for your time.

21 MR. SHEARS: Good afternoon, Chair Nichols and
22 members of the Board. My name's John Shears. I'm with
23 the Center for Energy Efficiency and Renewable
24 Technologies, here to strongly endorse the recommendations
25 of the staff and to encourage you to accept those

1 recommendations and to move forward.

2 I'm one of the NGO folks who has worked most
3 closely with the El Monte staff. And I want to
4 congratulate and thank the El Monte staff as well as the
5 rest of the crew for the fine work that they've been doing
6 just to keep tabs on things and making sure that we can
7 indeed move forward with this program.

8 I wanted to also sort of step back out of the
9 bubble for a second and take note. I think it was Mr.
10 Bozzella earlier this morning who said that this program's
11 too aggressive. I'd like to remind everyone that in the
12 Arctic this year, the average temperatures were 20 degrees
13 warmer than ever before; in the winter, 20 degrees warmer
14 in the Arctic. There are some climate scientists who are
15 now predicting that the Arctic could end up being ice free
16 year-round. That has serious implications for the global
17 atmospheric wind systems and how they link to the current
18 systems.

19 California's climate is one of the most
20 vulnerable climates to the effects on the planet's winds
21 and ocean currents.

22 This program, which started as California's first
23 climate program is critical to helping us and the rest of
24 the world through California's leadership move forward to
25 deal with climate change. And as we saw yesterday with

1 some of the other provisions that the Board has adopted,
2 California is not just picking on the auto industry.
3 California is doing everything it can to address climate
4 change.

5 Another aspect of all of this of course is -- are
6 the state SIPs. Something else that was considered
7 yesterday. And the work in the vision process that Joshua
8 Cunningham and other folks led up with the CARB staff, if
9 California doesn't move forward with programs like this
10 program, we are at greater and greater risk of not only
11 not being able to address climate change in the way we
12 need to, but also getting into violation of the state SIPs
13 and running afoul of the federal government in that
14 manner.

15 So there's the paradox here of if we pull back on
16 this, we risk running into other violations with the
17 federal regulators.

18 So I encourage you to move forward and to also
19 consider dropping the USO 6 limit based on further
20 development through El Monte.

21 So thanks.

22 DR. JACPOR: Good afternoon, Honorable Chair
23 Nichols and Honorable Board members. My name is Dr. Karen
24 Jacpor, and I'm here today as a representative of the
25 American Lung Association as a doctor for climate health,

1 as a patient, and as a parent here in the Inland Empire.

2 I've been fighting severe asthma and I've been
3 hospitalized or admitted to the emergency room so many
4 times, I have lost count. At least over 40. And so I
5 know firsthand how important it is the work of the clean
6 air programs, and I really applaud the work of the
7 California Air Resources Board.

8 Sometimes I feel like a canary in a coal mine
9 when I notice that my breathing is worse when the air
10 quality index worsens. My daughter is unable to play
11 outdoors about 100 days a year because I can't supervise
12 her outdoors on unhealthy air days.

13 Each year, 15 billion in health and climate
14 damages are caused by passenger vehicles in California,
15 according to the Lung Association report issued last year.
16 But health impacts can be reduced by 80 percent by 2050
17 through strong zero-emission vehicle policies. The bottom
18 line is that zero-emission vehicles can save lives with
19 this 80 percent reduction in health consequences.

20 I am very privileged to show you today that there
21 is broad public health support. I have two letters. This
22 letter represents 300 professionals -- health
23 professionals from across the country; and this letter
24 represents 28 health -- leading health organizations in
25 California. And this -- among these 28 health groups

1 include the California Medical Association, the American
2 Academy of Pediatrics, and the California Academy of
3 Family Physicians, and we're calling for California to
4 keep us on the right path.

5 Our letters states that clean car programs are
6 working as planned to reduce emissions and that the Board
7 should start now to develop the next generation of clean
8 vehicle standards. We believe that California's authority
9 to develop stronger than federal standards is critical to
10 protecting the health of vulnerable communities, including
11 the residents of this region that face high ozone levels.

12 California's standards should be implemented and
13 maintained, and California's authority must be preserved.
14 This is first and foremost a public health issue for all
15 Americans.

16 Thank you for your work on the review, on
17 developing and implementing the programs that I need to
18 breathe today, and so that our kids will grow up in air
19 that won't put them at risk of a permanent lung health
20 deficit for life.

21 Thank you very much.

22 MR. MAGAVERN: I'm Bill Magavern with the
23 Coalition for Clean Air. And I've been working on clean
24 car issues since the late '80s when I was one of Nader's
25 Raiders in Washington D.C. So I've had my share of

1 tangles with the big auto company.

2 But I've also for the last three years been happy
3 to be the owner of a General Motors car, a Chevrolet Volt,
4 which as you know is a breakthrough plug-in hybrid. And I
5 say that because I do believe that the big auto companies
6 can transform themselves and become part of the solution
7 instead of part of the problem and they can be drivers of
8 change and social responsibility.

9 But they're only going to do that if you tell
10 them to, because we've seen historically, whether we're
11 talking about fuel efficiency or catalytic converters or
12 seat belts or airbags, that those innovations get put on
13 the cars when government requires it.

14 And we now have the federal government going in
15 the wrong direction, so it really falls to this body to
16 keep us moving forward.

17 And the auto companies lament a lack of consumer
18 acceptance. But we know that they spend billions of
19 dollars to shake consumer desires. And you've already
20 heard this morning that they're not spending those
21 billions to get people to want to buy ZEVs. And that
22 needs to change.

23 They also need to do a better job of motivating
24 the dealers. And the study by Sierra Club confirms the
25 experience of so many EV shoppers who have found that the

1 dealers are not interested in or not prepared to sell them
2 electric vehicles.

3 This is of course an issue where California plays
4 a really important role nationally because of our unique
5 authority under the Clean Air Act. It's also about
6 protecting the health of Californians.

7 And we support all of the staff recommendations.
8 I want to particularly call attention to the importance of
9 maintaining the particulate matter standards. You have
10 our letter on that. And we also support strengthening
11 that standard over time because, as you've heard, the
12 European Union already has a tighter standard.

13 We also applaud the staff's intent to explore
14 broadening the ZEV standard. And we're particularly
15 interested in the possibility of including heavy-duty
16 vehicles because, as we discussed yesterday, we really
17 need to go zero emission in the heavy-duty sector in order
18 to attain both our air quality and our climate standards.

19 Thank you very much.

20 MS. MCGHEE: Good afternoon. My name's Lisa, and
21 I'm with the San Diego Airport Parking Company. And it is
22 a pleasure to be able to see the opportunities that have
23 been a part of clean transportation. And it's kind of
24 perfect that I got to follow Bill because he kind of just
25 allowed me to lead into some opportunities that I wanted

1 to speak about today.

2 Moving forward really is about adoption, and
3 relating to SB 350. And we need to drive zero-emission
4 vehicles. And who we are targeting is a big part of how
5 we maybe can accelerate adoption. It's not just about
6 light duty. If you look at your own model in table 15, it
7 shows that your vans and your trucks have no ZEVs.
8 There's actually only one zero-emission van today in the
9 entire nation. I speak to you because that is the type of
10 vehicle that we drive. It's a passenger vehicle. It's
11 also for personal use. So I do think there's a great
12 opportunity to create OEMs -- branded OEMs to help reduce
13 this gap of inventory that simply just isn't available.

14 I have driven in one-year's time 125,000 miles in
15 a ZEV. So there's a lot of pluses and benefits for a ZEV.
16 And there's also many barriers.

17 And so adoption is a big part of how we can
18 continue to move the SB 350 forward, and we need inventory
19 to do that.

20 Airports is what I wanted to talk about. I'm an
21 off airport parking operator. We have 350 shuttle vans in
22 San Diego. We average 50- to 100,000 miles per year.
23 That's 17 million miles in a year. We would gladly find
24 the ZEV use to be exceptional for our type of sector.
25 It's short haul. We're in -- in a controlled environment.

1 So there's a lot of pluses that I think that could be
2 considered when you target how you can accelerate
3 adoption.

4 Moving into efficiencies. We're lacking some
5 standards on efficiency. And what I want to bring up is,
6 what is a kilowatt hour in miles? You know, we don't
7 really have a standard right now. So how are we going to
8 compare fuel regulation standards in ICE vehicles to an
9 electric vehicle? That's an important element that's
10 missing right now. We do not know how many miles is a
11 kilowatt hour, and we're not having any regulation for it.

12 Also considering there's multiple exemptions
13 associated with certification that -- are other things
14 that can be considered when we talk about durability,
15 useful life. There is no requirement for garage services
16 right now for a ZEV OEM. That's created an obstacle for
17 me.

18 And so I would suggest that if we can continue to
19 try to help move the space forward that we have some more
20 regulations to support the space for adoption.

21 Thank you.

22 MS. REINHARDT: Good morning. My name is Alisa
23 Reinhardt and I'm the Director of Regulatory Affairs for
24 the California New Car Dealers Association.

25 California's new car dealers support the findings

1 of your midterm review. We especially found the CARB
2 staff's discussion around the state of the ZEV market and
3 the current levels of consumer demand very thoughtfully
4 done, and want to reiterate what we said in our written
5 comments to the Board.

6 We maintain that every new car sold that replaces
7 an older, higher polluting car means cleaner air and safer
8 roads, and our state's dealers are ready and willing to
9 partner with you to help put more zero-emission vehicles
10 and hybrid vehicles on our roads.

11 Automakers have done a fantastic job introducing
12 a wide variety of exciting new vehicle options in this
13 space. And California dealers will gladly sell any one of
14 these cars to anyone walking into a dealership that is
15 qualified to buy one.

16 Any stories you may hear to the contrary are
17 anecdotal at best, and are simply not representative of
18 California's dealer body as a whole and are support for
19 your efforts.

20 Thank you.

21 REV. KOTEEN: Good afternoon. A fellow Unitarian
22 once wrote in a cartoon that people of a limited
23 intelligence are drawn to meetings like moths to a porch
24 light.

25 (Laughter.)

1 REV. KOTEEN: He presumed that it was -- that
2 they had a very large bladder-to-brain ratio --

3 (Laughter.)

4 REV. KOTEEN: -- and managed to sit for a long
5 time and wear everybody else out.

6 But after sitting here yesterday for several
7 hours, I decided that it really takes buttocks of steel --

8 (Laughter.)

9 REV. KOTEEN: -- and a very stiff spine. And I
10 therefore honor you for having that capacity.

11 (Laughter.)

12 REV. KOTEEN: I hope your chairs are more
13 comfortable than the ones in the audience.

14 (Laughter.)

15 REV. KOTEEN: When I was thinking about yesterday
16 and today, the phrase that came to mind was from Exodus,
17 and it was about hardening Pharaoh's heart. And it didn't
18 seem fair to me when I read that that God not only
19 punished the Egyptian's but he also hardened Pharaoh's
20 heart so that Pharaoh wouldn't release the Israelites.

21 But I realized, first of all, that I was guilty
22 of what religious liberals always claim of conservatives,
23 which is that I was being guilty of misplaced literalism.
24 But, secondly, it was an acknowledgement that Pharaoh
25 could not be Pharaoh without a hard heart, and he could

1 not be willing to give up his slaves.

2 And we have all become slaves to the fossil fuel
3 industry. Not just you, but me, and everyone else.

4 And I'm wondering when we're going to start
5 treating tailpipes the way we treat cigarettes. I
6 remember when I could smoke anywhere I wanted to,
7 including an airline, and even in some places -- movie
8 theaters and restaurants. You can imagine what effect
9 that secondhand smoke had on people who weren't smoking.

10 And yet right now we still have tailpipes that
11 spew the same kind of poisons. And I'm in support of what
12 you're doing today, but we all need to do more.

13 So yesterday's testimony, particularly by the two
14 members who are physicians, about how painful it was not
15 only to see that -- the testimony people who have already
16 had relatives that are dying, but people who are in the
17 process of dying right now as a consequence of this,
18 brings us to mind that whatever we're doing now, we're
19 called upon to do more.

20 Thank you for your time.

21 MR. SCOTT: Good afternoon, Chair Nichols and
22 Board members. My name is Craig Scott from Toyota's
23 advanced technology group. And I'm proud to tell you
24 today that in the last year Toyota has sold nearly 1500
25 Mirai fuel cell vehicles and we're well on our way to

1 reaching our first milestone of 3,000 by the end of next
2 model year.

3 That said, a meaningful expansion of sales to
4 achieve our shared goal of reduced greenhouse gas
5 emissions in the transportation sector will require
6 growing hydrogen infrastructure both in number and
7 capacity.

8 Because we recognize the importance of helping
9 guide the development of infrastructure, Toyota has taken
10 the unusual step of getting involved by providing both
11 financial and technical assistance, initially by building
12 stations at three University of California locations,
13 followed by helping to start first element in California,
14 and then a network of 12 stations in the Northeast.

15 Finally this year we were proud to participate in
16 the groundbreaking Energy Commission award to Shell, the
17 first network of hydrogen stations in the U.S. to be built
18 by a major energy company.

19 Similar to our vehicle rollout efforts, we
20 believe it is necessary to accelerate the 100 goal from
21 2024 to 2020. Considering the amount of time it takes to
22 site, permit, and build locations, the time is upon us to
23 decide how the State can support a network beyond 100. We
24 currently estimate the need is around 225 sites by 2025,
25 and we must also include the other ZEV states. Reducing

1 emissions is our shared goal, and to be effective, we need
2 to sell fuel cell vehicles across all locations.

3 So far in the Northeast the only hydrogen station
4 network project to be funded is the one by Toyota and Air
5 Liquide.

6 As we move beyond the first 50 funded stations we
7 would continue to request the state's support to improve
8 the allocation of AB 8 funds. Namely, the following are
9 specific requests. Customer needs and preferences must
10 play the primary role in selecting site locations. Both
11 coverage and capacity are of key importance. Three
12 stations in close proximity are needed for a gasoline-like
13 experience. The station capacity must grow by a factor of
14 3 to 4 times. Local communities and property owners must
15 be incentivized to help drive this effort. Station
16 project applicants must demonstrate control of the site
17 before being awarded funds. And grant awardees need to be
18 incentivized to complete the project within a 12- to
19 18-month time frame or be subject to funding termination
20 and reassignment.

21 My last comment for today involves the price of
22 hydrogen at the pump and the very serious and immediate
23 need to find a pathway to reduce it substantially.

24 In addition to the financial support in
25 developing stations, Toyota has also provided \$15,000 in

1 complimentary fuel to each Mirai customer to show our
2 appreciation, but to also insulate them from the gap in
3 prices. To gain widespread market acceptance, an
4 incentive mechanism to reduce the price and make it closer
5 to gasoline parity is necessary. We believe the cost must
6 fall far below the \$11 per kilogram mentioned in the MTR
7 report. And in fact in Japan the target is 8.75, where
8 natural gas as you know is far more expensive than here.
9 We believe a reasonable and achievable target for
10 California is 5.50 to \$6 per kilogram.

11 Toyota remains committed to helping the State and
12 it's stakeholders.

13 And we thank you for your time today.

14 MR. EDER: Good afternoon, Board. I'm Harvey
15 Eder. I'm speaking for myself and for the Public Solar
16 Power Coalition.

17 I want to incorporate into the record here the
18 record from the 2016 AQMP, the environmental document
19 associate economic document. And in that, there's
20 information about equity -- I want to talk to you about
21 solar equity and environmental justice low income people.

22 There's a -- a book called "The Capital in the
23 21st Century" about equity by a French economist that's in
24 the record, and saying how inequity in our society is
25 increasing. And there's also discussions that have been

1 had with the senior staff vis-a-vis the Board that we've
2 participated in. We've proposed 10 million low- and
3 middle-income electric vehicles and another from 250,000
4 to a million trucks, solar electric either batteries or
5 hydrogen fuel cells.

6 We're looking at models of -- trying to get
7 equity to low income people as well as just the
8 corporations and whatnot, upper income people that take
9 the tax credits and write-offs. And so we think this is
10 important.

11 Solar elect -- nothing has been said about where
12 the electric comes from. It's got to come from solar.
13 Fifteen years ago you had folks coming here, said we've
14 got solar electric. Paul Scott, et cetera. And that's --
15 I mean, you know, it can't be from natural gas, from
16 fossil fuels, or nuke. There's still 600 megawatts of
17 nukes coming from Palo Verde vis-à-vis Edison, and more
18 from some of the local public power here that extend to
19 the power lines.

20 Anyway, this needs to be looked at. Solar has
21 come down and is coming down. We're looking at robotics,
22 artificial intelligence. There was an article in the
23 Times how they're going to use robots to prune in the
24 Central Valley and up in Napa. And this is -- the
25 difference between regulation and automation -- and this

1 is -- we got to look at the biggest picture in society and
2 look at what's happening with equity and who's going to
3 own and control these things. And this needs to be done
4 now. We're looking at the public-private partnership.

5 Also there's the book that was incorporated into
6 the record, "This Changes Everything," by Naomi Klein,
7 with 350. This does change everything. Included in the
8 record is the information on 750 to 800 parts per million
9 CO2 equivalent. We can't just use CO2 anymore.

10 And anyway, thank you.

11 MR. WHITE: Madam Chair and Board members. I'm
12 John white. I'm happy to be representing the Center for
13 Energy Efficiency and Renewable Technologies this
14 afternoon and also the Hydrogen Business Council.

15 Couple of thoughts that come to mind. I was with
16 the Board and in the audience in 1990 when the original
17 ZEV mandate was adopted. And I also go back a little
18 further to when we were discussing the feasibility of the
19 3-way catalysts. And one of the uniform things we learned
20 is that what we think it's going to cost turns out to not
21 be what it actually costs because we put our minds
22 together we get scale and we work together.

23 I want to compliment the staff and the Board for,
24 first of all, really good hearing and lots of good
25 contributions. Important technical work that our friends

1 at EDF and ICCT gives us confidence that we can do this.

2 And I think also the fact that the State of
3 California and -- is stepping up with a significant
4 integrated program of incentives for infrastructure as
5 well as to assist in buying the vehicles. Bodes well for
6 our success.

7 But there are dark clouds on the horizon. I'm
8 recalling the original statement on the floor of the
9 United States Senate by Senator George Murphy in 1967
10 articulating the reasons for California to attain its
11 ability to set its own standards. And he said it is
12 because of the extraordinary and compelling problem that
13 has existed and that exists in the State of California
14 that the state has had to make great effort in the past
15 that will undoubtedly be called upon to make even greater
16 efforts in the future to assure that the citizens of the
17 great State of California will have acceptable and clean
18 air.

19 That's still true. There's a lot riding on your
20 continued leadership and moving forward for the health of
21 our citizens. We still have too much nonattainment. We
22 make great progress, but we have much more work to do.

23 So we strongly concur with the recommendation to
24 stay the course in the midterm review. And we also very
25 much agree with the need to begin now to lay the

1 foundation for the next set of standards from 2026 to
2 2030; because it's at that point that we look like we're
3 going to be close to the crossover point where the EVs are
4 going to be cheaper than conventional vehicles and are
5 going to be a favorite choice. But we've got to sort of
6 seed that market and continue with the progress.

7 And I'd also like to urge our friends in the auto
8 industry to think twice about betting on the Trump
9 Administration as their future. You know, one of the
10 things we've wanted all these years is to have stability,
11 to have predictability. Your process has done that. The
12 administration seems prepared to throw a monkey wrench
13 into that process. But I think we're going to be here
14 longer than they are. And I think the auto industry would
15 be well advised not to bet against the State of California
16 when we have done so much together with them to accelerate
17 the progress of the technology.

18 Thank you very much.

19 CHAIR NICHOLS: Thank you. And you were the last
20 witness on our list. So I'm going to close off the public
21 testimony portion and move into some discussion on the
22 part of the Board. And I know a number of my fellow Board
23 members are going to want to have comments on this item.

24 But I'm going to do something that I don't
25 usually do, which is to start the conversation rather than

1 try to wait till the end.

2 So first of all, I want to say that I think it's
3 quite clear that the Air Resources Board is going to
4 affirm the technical reviews that were done by our own
5 NEPA staff as well as the work of a number of independent
6 analysts.

7 I want to make it clear that we invite the global
8 industry to bring us their best cars and trucks and to
9 take advantage of the willingness of our leaders. Not
10 just of the officials, but from all of the groups that
11 you've heard from here that want to work to provide a
12 range of incentives to make these vehicles affordable. We
13 understand that you are in business to make money. And we
14 don't want to interfere with that to any extent more than
15 we absolutely have to to help you help us get the vehicles
16 that we need.

17 We invite you to come and sit down with us, if
18 you have specific concerns about the implementation of the
19 existing regulations that can be addressed without
20 weakening the overall impact, which is what I've heard the
21 leaders of your associations say is what you wanted to do.

22 We want the cleaner cars that will save consumers
23 money and are fun to drive, because that's what we do in
24 California.

25 Now, I also want to turn to the industry

1 representatives who are here, and those who are not here
2 but are based in Washington, to say, what were you
3 thinking? What were you thinking when you threw
4 yourselves upon the mercy of the Trump Administration to
5 try to solve your problems? It just does not make sense.
6 And when we hear today that you didn't really mean to
7 question the validity of the California waiver, well, our
8 newly confirmed head of the Environmental Protection
9 Agency said he was prepared to do just that.

10 What did you mean when you said you didn't want
11 to question the overall thrust of the standards? Why do
12 another review if the current program is basically okay?
13 And if there were changes that needed to be made again on
14 the implementation side, bring them forward and have the
15 discussion. We invite you to do that.

16 So that's my opening here for the rest of the
17 Board to chime in. I'm sure people will have other things
18 they wish to say. But I just want to make it clear that
19 the outpouring of support that we have here today is not
20 just unique to California. You've heard from a number of
21 representatives of major state agencies that have also
22 come to be with us. And I hear from consumers and from
23 activists all over the country as well as all over the
24 world who want to be part of the move to a successful
25 zero-emission vehicle market.

1 So let's take action today on the resolution and
2 then let's move on.

3 So, Dr. Sperling, would you care to comment next.

4 BOARD MEMBER SPERLING: I'll follow Chair
5 Nichols' lead on this.

6 I will say, first of all - backing up just a
7 little bit - is the staff did do an extraordinary job. I
8 mean, that was an extraordinarily sophisticated, careful,
9 quantitative analysis of the situation, both for the ZEVs
10 and for the greenhouse gas standards.

11 And I also want to note that this -- I've been
12 particularly impressed with the speakers today. It must
13 have been probably -- well, probably a quarter or a third
14 nailed it exactly at three minutes and did it in a very
15 articulate way. I mean, I think this has been the best
16 group of speakers we've ever had in terms of being
17 articulate and getting the time.

18 Okay. So getting back to the point at hand.

19 You know, the greenhouse -- so let me just delve
20 a little more deeply into this.

21 So the greenhouse gas standard, all of the
22 evidence, all of the analysis, call it science, call it
23 economics, shows that, if anything, these standards should
24 be even more aggressive. And that's because every single
25 study shows that there's more savings than there is cost,

1 with discounted appropriately and so on. I mean, think
2 about it for a minute. That means this is one of the best
3 regulations or policies anyone has ever adopted. What
4 we're saying is that this saves consumers money, it saves
5 economy -- the economy money. Forget about greenhouse
6 gases, forget about air pollution. It's great before you
7 even -- and then if you add those on, I mean it's even
8 better.

9 So to get back to the -- you know, the Washington
10 D.C. story, you go there, and I don't see any way where
11 the evidence can be shown that the standard should be
12 weakened in any way.

13 Now, I understand the industry wanted -- you
14 know, was concerned about some of the details of it, the
15 alignment and flexibility. And I actually agree they had
16 good points on that. How they got themselves into the
17 situation where they are now is probably, you know, not in
18 anyone's best interest. But being that what it is, you
19 know, I agree, there's some changes that should be made.
20 You know, one of them that really irks me that I'd like to
21 see change is that electric vehicles lose all of their
22 multiplier credit and, not only that, but upstream
23 emissions are assigned to it. And I'm not sure exactly
24 how that's going to be done, because if you take the
25 average for the country, you know, in some places the grid

1 emissions are pretty high.

2 And so that takes away much of the motivation
3 certainly from a regulatory perspective for the car
4 industry to be investing in electric vehicles. So it's
5 moving us in the wrong direction, and the industry itself
6 would agree with that.

7 And so, you know, I'm not the politician so I
8 don't know how this is played -- going to play out. But
9 certainly I know California is going to take a very strong
10 position that, you know, if anything is done, that's fine
11 as long as it's more stringent in fixing some of these.

12 So that's the greenhouse gas story.

13 And then the ZEV story, which is to -- the
14 greenhouse gas one, it's so straightforward and obvious,
15 it's like, you know, okay, that's easy. The ZEV story is
16 perhaps a little more complicated. In many ways -- and
17 not only in many ways. I would say the ZEV mandate has
18 been the most important, most effective policy in the
19 world to accelerate advanced technology, advanced electric
20 drive technology.

21 And we're starting to see that. Okay, you know,
22 it took a while. There were some blips along the way and
23 it had a tortured life for many years. But it played a
24 really important role. It sent a signal that was, you
25 know, important to the industry, to battery makers and so

1 on, and we're seeing that now. We see great tech -- you
2 know, the car -- the car companies have done a great job.
3 The car technology is very impressive. It's getting
4 better and better. I've driven and owned many of them.
5 The battery costs are coming down quickly, much faster
6 than almost anyone expected. But to go back to what John
7 White was saying, when we as a society, economy, and
8 people focus our resources and our attention on something,
9 it's amazing what we can do. And that's what's happening
10 with batteries. And the same thing, you know, as we gear
11 up with fuel cells, we're going to see the same thing with
12 fuel cells, for sure.

13 I would say -- having said that, we are not
14 alone. And this is actually a good story. China has
15 soared past us in terms of number of vehicles. They sold
16 500,000 electric vehicles last year, way more than the
17 U.S. did. Over 300,000 cars, a hundred thousand electric
18 buses, 50,000 electric trucks -- heavy-duty trucks.

19 Norway has over 30 percent market share for
20 electric vehicles. 30 percent. You know, we're at 3
21 percent.

22 So this really is an important policy. Now, the
23 point of this policy though, before I get into some more
24 of the details is, the point of this policy is
25 commercialization, to advance the commercialization of

1 electric vehicles, of zero-emission vehicles, plug-in
2 hybrids, fuel cells. It's not to reduce air quality --
3 reduce pollution. It's not to reduce greenhouse gases.
4 Yes, we want those benefits along the way. But those
5 benefits are so tiny at the market shares we're talking
6 about, that the point of this is to accelerate
7 commercialization.

8 So as we think -- go forward, certainly past
9 2025, as many people have said, there's lots of reasons
10 and lots of motivations to really ramp up the number of
11 zero-emission vehicles, and we need to be committed to
12 doing that. A regulation by itself can't do that.

13 So as the staff has indicated, as we've heard
14 from other people, we need a lot more focus on incentives,
15 and we have to make those certain, we have to create more
16 of a certainty in them. They should be at point of sale
17 like it was either New York or Connecticut said they're
18 doing. We need better marketing. We need better -- more
19 infrastructure, both hydrogen and electricity.

20 And the pricing -- electricity pricing. You
21 know, in California we have these tiered rates in most
22 cases. And that means if you add an electric vehicle to
23 it -- you know, to your household, you actually would pay
24 more unless you had some special electric vehicle rates or
25 time-of-use rates.

1 Now, we're making progress on all of these. The
2 PUC is working on the prices. We are funding more
3 infrastructure. But we've got to do it more and better.
4 And I think that, you know -- Chairwoman Nichols has
5 emphasized this in the past. And I think -- you know,
6 we've got to figure out how to double down on all of
7 those. The PEP collaborative is working. And marketing,
8 I would note also, which is important.

9 Okay. So what does all this mean in terms of any
10 changes on the ZEV side? There is one thing that I feel
11 strongly about, a change that I would like to see. And
12 that is -- it's not a change. It's an extension. And
13 that is what's been known as the transportation system
14 credits. And this is something that right now it -- it
15 was snuck through in 2012. That's not a technical word.

16 (Laughter.)

17 BOARD MEMBER SPERLING: And I didn't notice it.
18 I didn't realize it. And, you know, it's scheduled to be
19 phased out at the end of this year. I think that's a huge
20 mistake, because we're talking about -- as we talk about
21 complementary measures in marketing, this is one of the
22 cheapest, easiest ways to do that. Because what it's
23 going to do is it's a way of getting more of the electric
24 vehicles, the ZEVs into car sharing, into some of the new
25 mobility services out there. And what we've -- if there's

1 anything we've learned is people need to have the
2 experience with these vehicles before they buy them. And
3 we've seen -- we've had market research funded by ARB and
4 others that have shown that the knowledge and awareness of
5 electric vehicles is remarkably low, even for people that
6 are buying new cars. And it's really shocking, you know,
7 when you look at, you know, some of those findings.

8 So this is something that does it easy and cheap.
9 And so I would really argue for an extension of that going
10 forward.

11 The other thing I wouldn't argue with quite so
12 strongly but I believe strongly is -- and especially going
13 forward, is with plug-in hybrids, creating more
14 flexibility. The point -- and certainly 2026 and beyond.
15 We -- the point of the ZEV mandate is to get vehicles out
16 there, to get the industry investing in them and the
17 technology. And we don't -- you know, we're not brilliant
18 enough to know exactly how this is going to play out. And
19 the 177 states especially, they have different markets
20 than us; and we understand that even less well than we do
21 the California market.

22 So I would put that on the table as something to
23 think about. You know, I know there's the, you know,
24 waiver issues and so on. But if there's some way to do
25 that certainly for 2026 and beyond, we need to create more

1 flexibility.

2 CHAIR NICHOLS: Are you not worried about the
3 cold start problem?

4 BOARD MEMBER SPERLING: The cold start problem I
5 think is overstated in the sense that if we have, say --
6 if the plug-in hybrids are, say, 6 percent of the market
7 sales in 2025, and -- the plug-in hybrids are, say, 5 or 6
8 percent, and that would mean they're like 1 or 2 percent
9 of the total market -- and now we're talking about a tiny
10 part of 1 percent. So through 2025, no. I don't think
11 that's a big issue. Beyond it, yes. But we are -- I hope
12 we are adopting new test procedures that will make sure
13 that there will not be any of those, that we fix that. I
14 see that as a temporary problem and that we should be
15 focusing on getting more vehicles out there and
16 commercializing them.

17 CHAIR NICHOLS: Okay. Dr. Balmes, you're next.

18 BOARD MEMBER BALMES: Thank you, Chair Nichols.

19 Well, I'm going to sort of get down into the
20 weeds a little bit more. I brought up earlier Tom
21 Cackette's Jetta Diesel. I turned mine in and bought
22 Chevy Volt, and I want to talk about my experience, you
23 know, buying that vehicle.

24 I went to a local East Bay Chevy dealer where the
25 vehicles were prominently displayed. You first came on to

1 the lot, there were several right next to a Stingray, you
2 know, and they sort of caught attention, looked good.
3 They were clean. They were ready to go.

4 Actually the one that I drove was a fancy one
5 with every available option. And because I was getting a
6 good deal for a Volkswagen, my wife let me buy the fancy
7 one with the Bose stereo.

8 (Laughter.)

9 BOARD MEMBER BALMES: It's fun to drive. I
10 bought it in November. I still haven't finished the
11 original gas tank. I have a half a tank left. And
12 there's no reason that these vehicles can't be marketed
13 effectively.

14 That was an example of a, you know, California
15 dealership, but, you know, you can do this in 177 states.

16 And I don't watch much TV, but I'm a big Warriors
17 fan and I watch Warriors games. And do I see
18 advertisements for plug-in hybrids or battery electric
19 vehicles? No, I see ad after ad for Silverados, F-150s,
20 and Ram trucks. I mean, the industry talks about there's
21 no market for these vehicles. Well, you create market.
22 You put millions of dollars into advertising. You say the
23 public doesn't want to buy these vehicles, but you don't
24 try to sell it to them.

25 And, you know, I can only add my support to what

1 Chair Nichols said about, you know, I don't know where you
2 guys are going - and I'm talking to the auto industry
3 here. For the last few years I've been telling -- I've
4 been listening to how you're cooperating with us, trying
5 to move ahead, trying to help us meet our both air quality
6 and greenhouse gas climate change goals. I don't know.
7 You have to work with us to achieve those goals, not work
8 against us.

9 I want to say also that I want to endorse the
10 issue about a reliable ZEV incentive program. I wish our
11 legislators were here today. They were here yesterday. I
12 think that at least Assemblyperson Garcia's staff person
13 is here. Please take the message back to your assemblyman
14 that we need to have a stable ZEV incentive program if we
15 want the public to continue to buy the cars in the numbers
16 that we need to have them do so.

17 I have a specific question to staff. It's an
18 informational question. The MECA representative asked
19 about a -- had a proposal for a voluntary GHG credit
20 related to -- well, a credit for a voluntary use of a gas
21 particle filter. I just would like staff to comment about
22 that. I'll pause for a second, if anybody can do that.

23 DEPUTY EXECUTIVE OFFICER AYALA: Dr. Balmes, I'd
24 be happy to do that.

25 The proposal that MECA has made, we find it to be

1 reasonable, so we are committed to working with them and
2 trying to figure out what is the right mechanism to try to
3 promote the deployment of the technology. We agree the
4 technology is a good solution. It's not the only
5 solution. So we're in a good place.

6 BOARD MEMBER BALMES: Okay. Well, thank you.

7 And my last point is also directed towards staff.

8 Dr. Sperling doesn't often say that staff
9 presentations are sophisticated.

10 (Laughter.)

11 BOARD MEMBER BALMES: And he -- I want to support
12 his compliment. I really thought that the presentation
13 today was outstanding, and -- I'm even getting choked up
14 here -- because, you know, this agency has proposed and
15 has implemented important zero-emission vehicle and fuel
16 economy standards that are impacting the world, and it's
17 been supported by solid work of our staff.

18 And, you know, the public support for what our
19 staff has proposed I think is proof of the worth of the
20 work.

21 Thank you.

22 CHAIR NICHOLS: Thank you.

23 Ms. Mitchell, you're next.

24 BOARD MEMBER MITCHELL: Thank you.

25 One thing I think we can start with is that this

1 program has shown remarkable progress. It began in 2012.
2 We're only five years into this program and we -- this has
3 just been amazing where we are today, which also leads to
4 a conclusion then in the next five years it could be even
5 more amazing.

6 And I expect we will see some very dramatic
7 changes in the transportation industry as we go forward.
8 And I think that the work of this agency has really been
9 the catalyst to get where we are now.

10 With that, I also want to express a really strong
11 support for our Northeast states. While this program has
12 been successful in California, we need it to be successful
13 across the nation. And the Northeast states in the
14 Section 177 program is a pathway to get there.

15 Those of us who are on the Board, we get your
16 comment letters. And one thing I want to remark on is we
17 got 700 letters from residents in the Northeast states all
18 asking for these electric vehicle cars. And these were
19 just people off the street. They weren't people in the
20 industry. It was 700 people who bothered to write us a
21 letter asking for electric vehicles. And that should be a
22 message to our dealers and our OEMs that, you know, there
23 is a demand for these cars. In fact, in conversations
24 with Tesla, I learned that their best market is the
25 Northeast state. And they've solved some of the problems

1 with cold start. And we also know that Northeast states
2 want all-wheel or 4-wheel vehicles because they have
3 weather patterns that demand that. So OEMs should be
4 looking at that as their future manufacturing goal.

5 So some of things that came out of the testimony
6 that I think we should be looking at is charging stations.
7 Obviously we need infrastructure both for EVs and for
8 hydrogen. And I think that should be something that we
9 look at post 2025. And it was mentioned that perhaps we
10 should have a goal for the number of charging stations.
11 So that's something I think our staff could study.

12 Another thing that we need to be thinking about
13 is that we need to have more EVs in clean vehicles that
14 are shuttle vans, that are light-duty trucks, that are the
15 SUVs, because this is what's happening to our market:
16 People are buying these things with low gas prices, but
17 also because that's what's available. We don't have
18 EVs -- or many EVs in that category. I know we're moving
19 in that direction. But if there's a way that we can
20 stimulate that production, that would be good. And also
21 that's a note for the OEMs that are out there.

22 I think the other thing post 2025 is we need to
23 look at the credits in the market, both for EVs and for
24 plug-in hybrids.

25 There -- we know that there is -- some of that

1 has been a little bit skewed because we had advanced
2 faster than we thought, we got better range vehicles much
3 faster than we thought, and that credit market has been
4 kind of slanted because of some of the advancements that
5 we didn't expect. So that's one thing we should be
6 reviewing.

7 It was also mentioned that the PM standard of 1
8 milligram per mile can be even better. It can be 0.5 as I
9 understood it from the testimony. So let's take a look at
10 that too and study it as a possible goal for future.

11 Again, I want to echo what has been already said
12 about a reliable incentive program. That's really
13 important in these early stages, to get that incentive
14 program going so that we move past early adopters and
15 increase this market. It could be rebates. It could be
16 stickers for the HOV lanes. It could be tax credits. And
17 there's probably some other innovative things we could
18 think of that would stimulate the market.

19 I also think as we look at post 2025, let's look
20 at the global market and compare ourselves against what is
21 happening globally. It was mentioned that -- I think
22 Dr. Sperling said 500,000 sales of EVs in China. And I
23 think we should be comparing ourselves against that market
24 so that we're at least trying to move in that direction.
25 And OEMs should pay attention to that too. The market is

1 global. It's not just California and a few states in the
2 United States.

3 And finally, I think we need to be looking at
4 what is the transformative things that are happening in
5 transportation:

6 Car sharing like Uber and Lyft. And some of
7 those are very involved in first and last mile.

8 The other thing is autonomous cars. I once heard
9 a presentation where someone said the worst thing that
10 could happen to us is autonomous cars, because now you'll
11 have a bunch of cars running around with nobody in them.
12 And that is not good for our congestion problem.

13 But autonomous cars that are zero emission is an
14 opportunity. And so that is an area I think we should be
15 looking at. I don't know exactly how we attack it. But I
16 think that we should be taking into consideration these
17 kinds of new things that are happening in transportation.

18 Thank you.

19 CHAIR NICHOLS: Okay. Next I have Dr. Sherriffs
20 and then Supervisor Serna.

21 BOARD MEMBER SHERRIFFS: Thank you very much.

22 One advantage of being way down on the end here,
23 I've got my own camera.

24 (Laughter.)

25 BOARD MEMBER SHERRIFFS: So I had to say

1 something. You know, use the technology.

2 This has been a remarkable morning and early
3 afternoon. Thinking about what is success. And there has
4 been so much success in this process. Really remarkable
5 and really wonderful to be part of all of the energy
6 that's here, and really grateful to people who have come
7 from far to testify and support the work and help advance
8 what's -- what we're working on.

9 You know, really, well, why do we have advanced
10 clean cars? Well, in fact it is to decrease greenhouse
11 gases and to improve air quality. And it's been
12 remarkable the success that this program has had in terms
13 of, as has been pointing out, advancing technology and
14 commercialization of the technology.

15 We pick a lot on the manufacturers and the
16 dealers in terms of supporting this moving forward. And
17 we all have our stories. And I could talk about what it
18 took to get the battery replaced in my car. I will say
19 and -- for the manufacturer, that was great. They stood
20 behind it. But I had to take the car to the dealer three
21 times and point out to the repair person which was the
22 dial we needed to be looking at that indicated there was a
23 problem with the battery.

24 But maybe this will take care of itself, because
25 we look at the global market and we see the sales in China

1 and we see 30 percent of new cars in Norway. Although we
2 had heard that these things don't work in cold climates.
3 And the last time I looked, Norway was still pretty cold.

4 So maybe this problem will take care of itself.

5 But, you know, we were called earlier. And we
6 all recognize, this really is just the beginning. We're
7 always called to do more. This is great success, but it's
8 just moving forward; and we certainly need to be engaging
9 in that process, looking to 2026 beyond. Because we think
10 about incentives, well, one of the great incentives for
11 the manufacturers is having a clear path forward. That we
12 think hard and long and get it right so that it is an
13 appropriate pathway and a pathway that is going to work
14 and can be counted on.

15 Incentives, so important in terms of developing
16 our infrastructure. It's wonderful to hear how successful
17 places like Connecticut have been.

18 You know, this is so important for air quality
19 for the valley. Every zero-emission vehicle in the
20 valley, boy, that is huge in terms of us trying to get to
21 our PM2.5 and our ozone. But, again, the valley presents
22 its own challenges in terms of being a relatively rural,
23 having the corridors in terms of freight so important to
24 the State's economy. But also reminding us as we look at
25 2026 and beyond, boy, we really need to broaden this, we

1 need to do so much more to bring heavy-duty trucks into
2 this, to help the manufacturers move forward with more
3 options in terms of vans, airport shuttles, those types of
4 things.

5 And pickup trucks. I have lots of farming
6 friends in the valley who say, "100 miles, that'll work
7 for me. But there's no pickup option that's going to get
8 me around my ranch today." And I know for myself,
9 confession: I have a pickup truck. My wife wants me to
10 get rid of it. It could be our electric vehicle, and that
11 would satisfy me.

12 But it's not an option, yet. So I'm looking
13 forward to the future and looking forward to continuing to
14 work 2026 and beyond. And the sooner we start that, the
15 better.

16 CHAIR NICHOLS: Supervisor Serna and then Mr. De
17 La Torre.

18 BOARD MEMBER SERNA: Thank you, Chair Nichols.

19 So Dr. Sherriffs just stole a little bit of what I was
20 going to say. I have a number of things I want to comment
21 on. But I too have a pickup truck. And, you know, it's
22 an aluminum body, F-150, so it's light weight.

23 But it does occur to me and it sounds like others
24 on this Board that that's certainly a part of the market
25 that has not been exploited in the kind of way that we

1 want in terms of advancing battery electric and plug-in
2 hybrids for the purpose of hauling and towing in some
3 cases. And I think that is certainly something that I'd
4 be looking forward to seeing the chart next time that has
5 the pickup truck icon on the chart. So...

6 One of the things that stood out to me today in
7 terms of the testimony was something Bill Magavern said.
8 And I'm not sure if he's still here or not. But, you
9 know, he reminded us that we are here to essentially
10 make -- in this case make the OEMs meet the market. And I
11 think that is something not to be taken lightly. I mean,
12 as regulators and certainly as some of us are elected
13 officials, sometimes that makes you wince a little bit.
14 But I think in this case that's certainly the best way to
15 think about our role in this, is to interject what we need
16 to see happen here in not just the California market but
17 certainly assisting, as has been noted today, other states
18 in terms of expanding the market for ZEVs in particular.

19 I think what Dr. Sperling said earlier really
20 resonated with me, and I presume others, about, you know,
21 just exposing consumers to the experience is something
22 that I think is absolutely critical. And what I haven't
23 heard, and maybe there's someone that can correct me if
24 I'm misstating this, but it seems to me that there are all
25 kinds of opportunities to do that. For instance, just

1 getting here to this meeting the last two days, we had to
2 rent -- a number of us had to rent cars at the airport.
3 And just kind of wondered out loud whether or not any of
4 the rental car agencies are looking at programs that could
5 expose consumers on a -- obviously on a limited time basis
6 to the experience of driving ZEVs or plug-in hybrids or
7 other types of model vehicles that aren't just based on
8 ICE propulsion. So I think that's an option.

9 I think, you know, the dealers when they have
10 loaners -- when they give loaners to their buyers that are
11 having their vehicle serviced, that's another opportunity
12 to expose the market for a limited time and get people
13 thinking, getting consumers thinking about the ben -- not
14 just the environmental benefits of driving something other
15 than an ICE engine vehicle but the quietness, as someone
16 mentioned, of driving a battery electric.

17 These are all the kind of creative things that I
18 haven't heard yet - and again correct me if I'm wrong -
19 that I think ought to be -- ought to be exploited.

20 And lastly, I think certainly the need to expand
21 our infrastructure has everything to do with the
22 ability -- overall ability to see expansion in the market.

23 I had a visit from someone here that -- in
24 California that is in the business of mobile solar
25 charging stations for plug-in vehicles. I think it's

1 ingenious. These things are -- basically you drop them
2 down and they're ready to go. They charge themselves.
3 Those of us that serve up here in local government
4 capacities I think have a responsibility to seriously look
5 at technologies like that that are relatively easy. You
6 don't have to have an open trench scenario that's costly
7 and disruptive. You can literally just have these things
8 dropped in parking lots. And there's even a model of this
9 portable charging station, if you will, that can be
10 adapted for street use.

11 So those are the kinds of things in the menu of
12 kind of creative thinking to expand the market that I
13 think we're going to have to see more of.

14 And then I'll just end by again thanking staff.
15 I think, as was noted earlier, you've just done a yeoman's
16 job of really providing not just this Board but the public
17 with I think some very clear challenges that we have still
18 but certainly all the complementary policy directives that
19 we need to see the market expand.

20 Thank you.

21 BOARD MEMBER SHERRIFFS: The Fowler Library has a
22 solar charging station. It's wonderful.

23 BOARD MEMBER DE LA TORRE: Thank you.

24 When I came on the Board, one of the -- the first
25 big thing that I faced was that deal in 2012. I came late

1 2011. And I was getting lobbied by many of the people in
2 this room about that deal. And there were so many
3 unknowns around that deal. This Board had a really hard
4 time trying to anticipate what was going to happen. And
5 we all took that leap of faith.

6 And so here we are doing our midterm review,
7 which was part of the deal back then. So we are following
8 through. We've done the analysis. And we are going to
9 vote in a little bit on this. But I can't think -- you
10 know, I'm trying to think back to 2012. And I can't think
11 of anything in this situation that we're in in 2017 that
12 goes against what we sought out in 2012. I can't think of
13 anything that went wrong in these intervening years. I
14 can't think of anything that is shaky or scary today that
15 we didn't know back then. It's turned out pretty damn
16 well.

17 And so when you do a midterm review it's -- in my
18 mind, it's an off-ramp possibility. Well, there is no
19 damn off-ramp. We're doing exactly what we said we were
20 going to do. You're doing exactly what you said you were
21 going to do. In a couple of years we're going to have
22 double the number of electric vehicles on the streets or
23 being offered for sale, which I think is going to really
24 kick in the market with more variety. Some of you have
25 heard me talk about some of the electric vehicles that I

1 think that are less than attractive.

2 (Laughter.)

3 BOARD MEMBER DE LA TORRE: I think that's going
4 to change, because there's going to be so many more
5 options - cool options, big options, small options,
6 different options. 200-mile options. That was not
7 something we were talking about in 2012.

8 Maybe Dan was.

9 (Laughter.)

10 BOARD MEMBER DE LA TORRE: So, I mean, here we
11 are in the middle of this thing -- well, not quite the
12 middle but where we proposed we were going to check this
13 thing out, and it's all working. So why would we take the
14 off-ramp? Because something has happened in Washington
15 D.C.? And I can appreciate how hard it is for the OEMs.
16 It's like being between two bickering parents. Right?

17 (Laughter.)

18 BOARD MEMBER DE LA TORRE: And we're the cool
19 one, by the way.

20 (Laughter.)

21 BOARD MEMBER DE LA TORRE: I can understand. I
22 can appreciate how difficult that is. I can understand
23 that on the one hand you have environmental measures, that
24 is our purview; and on the other hand you might have, say,
25 manufacturing incentives or tariffs that might be

1 implemented on imports. I get it. It's tough.

2 But, I'm going to paraphrase a conversation I had
3 with one of your associations, after the other association
4 sent a letter to the Trump Administration saying you
5 wanted to roll back some of this stuff. And that was that
6 you take a long-term global view of the marketplace: That
7 there is a world marketplace; that there is a United
8 States marketplace; and there's a California marketplace,
9 and those are all woven together. And that you need to do
10 product development over the long term and you need to
11 develop products with an eye toward where that global
12 marketplace is going, to Dan's point about sales in other
13 countries. And you're doing that. You've been doing that
14 for a few years now.

15 So, whether it's four years or eight years, why
16 would you change for U.S. market or for the California
17 market when there's a world market out there that is
18 heading in this direction? And I would argue that the
19 California market and the world market are exactly on the
20 same page regardless of what's going on in Washington D.C.

21 So from a business standpoint of the biggest
22 market and the longer term direction, this is the right
23 way to go to stay on track here. So if a divorce is going
24 to happen at some point, we are going to litigate that
25 divorce strongly.

1 And I think the point that was made from the VW
2 settlement earlier - right? - that there were 500,000 of
3 these cars here in the United States, but 8 million of
4 them in Europe. That should tell you what I'm saying
5 here, that I don't -- I'm not making this stuff up. We
6 are just a little piece of the pie, even the United
7 States. I know it's hard for us to not be, you know, the
8 greatest all the time.

9 (Laughter.)

10 BOARD MEMBER DE LA TORRE: And then in terms of
11 what's going on in Washington, I would just point out, you
12 know, within the first hundred days we've had that
13 spectacular success of the travel ban. And the headline
14 just right now a couple of hours ago, "House GOP gives up
15 on health care bill as Trump suffers first legislative
16 defeat."

17 (Applause.)

18 BOARD MEMBER DE LA TORRE: So when your parents
19 are fighting --

20 (Laughter.)

21 BOARD MEMBER DE LA TORRE: -- you can see which
22 one has their act together and which one doesn't.

23 (Applause.)

24 BOARD MEMBER DE LA TORRE: Again, we understand,
25 I understand this difficult spot you're in. But your

1 interests, your business interests long term and in the
2 marketplace of vehicles in this world are more aligned
3 here than they are elsewhere.

4 And I'll close with again going back to the
5 beginning of all this, which is "a deal is a deal." There
6 were three parties at that table back in 2012. We're one
7 of those parties, and we are going to continue to exercise
8 our authority under that deal until we decide that that
9 deal is no longer valid.

10 Thank you.

11 CHAIR NICHOLS: Thank you. Next in line is Vice
12 Chair Berg, who I believe is going to actually propose the
13 resolution.

14 VICE CHAIR BERG: Well, I do see -- Diane, did
15 you want to make a comment?

16 BOARD MEMBER TAKVORIAN: Is that before --

17 VICE CHAIR BERG: Yeah, I'm going to move. Okay.

18 BOARD MEMBER TAKVORIAN: Thank you.

19 Well, hard to follow Member De La Torre. I would
20 say current White House tenant, 0; human environmental
21 rights, 3. Let's call it that so far, at least on the
22 books. So I'd say bet on California if that's a summary.

23 And I want to thank all of CARB. I am inspired
24 by our Chair's opening comments, and I think that
25 this -- this is a CARB legacy issue. And it's clear that

1 this Board is committed, the staff is committed. You've
2 made it happen, and not just for California and the United
3 States but for the world.

4 Since we're all disclosing our vehicles, I guess
5 I need to say that --

6 (Laughter.)

7 BOARD MEMBER TAKVORIAN: -- I drive a 2012 Volt.
8 And my experience in purchasing was probably different
9 than Dr. Balmes. It actually wasn't in the front lot. I
10 knew what I wanted when I walked in. And there was a
11 sales guy that said, "Really? You sure? I can put you in
12 this" whatever. But I knew what I wanted, and it has
13 since then been a really positive experience. But that's
14 four years -- five years and I think it's really changed.

15 Unfortunately there's one mechanic at our
16 dealership that -- and, you know, we're on a first-name
17 basis and I know what his days on and off are, so I know
18 when I can get service.

19 But -- you know, but I think it's changing and
20 it's great to be part of that evolutionary change and to
21 watch those things happen and to hear these stories.

22 I will say - and no one will be surprised by
23 this - that, you know, one, low income communities and
24 disadvantaged communities are benefiting from these ZEVs
25 being on the road. We are located next to freeways and

1 next to major roadways. So the cleaner these cars get,
2 the less polluted our communities get, the less asthma our
3 kids have. So that's a huge advantage, and no one can
4 deny that.

5 The other fact is is that our communities are not
6 part of this story yet. And we need to be. So we need to
7 improve the incentives. I endorse what folks have said
8 about really needing to make those incentives better, and
9 we need to make them more available for low and moderate
10 income families - I think that's really important - and
11 for the secondary market. It's important for folks to be
12 able to purchase these cars on the second round.

13 So I support the measure and I congratulate
14 everyone who's worked so hard on it. And everyone who is
15 here today, we really appreciate all of your hard work on
16 it.

17 BOARD MEMBER BALMES: Before you go and propose
18 the resolution, I just want to say -- I've already shared
19 this with my partners here -- my Chevy Volt dealer must
20 have heard me, because they're now trying to sell me a
21 Volt. "Electric cars of the future. Come see the new
22 Chevrolet Volt here at" --

23 (Laughter.)

24 BOARD MEMBER BALMES: "Please call for a test
25 drive."

1 (Laughter.)

2 VICE CHAIR BERG: Madam Chair, understanding the
3 only thing that is preventing us to go to lunch is moving
4 Resolution Number 17-3. I propose that we adopt --

5 BOARD MEMBER SHERRIFFS: Second.

6 VICE CHAIR BERG: -- Resolution 17-3.

7 BOARD MEMBER BALMES: I enthusiastically second.

8 CHAIR NICHOLS: All right. Will all in favor
9 please signify by saying loudly aye.

10 (Unanimous aye vote.)

11 CHAIR NICHOLS: Any opposed?

12 None opposed.

13 No abstentions.

14 All right. Thank you all so much.

15 And we will take a lunch break, and we will be
16 back to take up our last item of the day, which is the
17 report on the ZEV investment plan after lunch at 2 -- no,
18 wait -- 3 -- 3 o'clock.

19 (Off record: 1:44 p.m.)

20 (Thereupon a lunch break was taken.)

21

22

23

24

25

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

2 (On record: 3:06 p.m.)

3 CHAIR NICHOLS: Ladies and gentlemen, we're ready
4 to resume the meeting.

5 We have quite a number of people who've signed up
6 to talk on this item. So let's just get started with the
7 staff presentation.

8 This is the discussion of the First Draft
9 Volkswagen Zero-Emission Vehicle Investment Plan.

10 The diesel emission enforcement case has been
11 settled through a series of partial consent decrees
12 covering mitigation of the emissions caused by the
13 noncompliant diesel vehicles, vehicle buy-back and repair
14 solutions to address the polluting vehicles and compensate
15 the vehicle owners, and a commitment by the company to
16 invest in zero-emission vehicle programs that will support
17 the ZEV market.

18 Last December, staff updated the Board on
19 activities associated with implementing part of a
20 Volkswagen 2 liter engine diesel partial consent decree;
21 specifically, the zero-emission vehicle investment
22 commitment.

23 Since the December update, a settlement for the 3
24 liter engines and also a penalty settlement have each been
25 agreed on. The two new settlements will bring another

1 \$220 million to California along with other benefits such
2 as a required increase in available Volkswagen ZEV models
3 and vehicle types. Today's update is focused primarily on
4 the investment commitment portion of the 2 liter consent
5 decree.

6 Just as a reminder, because this comes up every
7 time this topic comes up again, Appendix C, the ZEV
8 investment settlement, is not either a civil penalty or
9 mitigation. It does commit Volkswagen to investing \$800
10 million in California on ZEV infrastructure, brand-neutral
11 public awareness marketing, increasing access to ZEVs, and
12 green city projects.

13 So if done well, this investment will benefit
14 Volkswagen in their new ventures into the ZEV world
15 without a doubt. But it will also benefit equally, if not
16 more so just based on numbers, the other firms and
17 stakeholders that are involved in ZEV as well.

18 In February, staff provided Volkswagen with a
19 publicly available guidance document intended to inform
20 the company's first 30-month ZEV investment plan. This
21 guidance document was based on public input, feedback from
22 the Board, and input from our sister state agencies, as
23 well as the California Legislature.

24 Earlier this month, as required by the consent
25 decree, Volkswagen submitted a draft ZEV investment plan

1 to ARB staff. I look forward to hearing more about the
2 plan, in particular how well it aligns with the
3 requirements of the consent decree and our February
4 guidance.

5 So, Mr. Corey, will you please introduce this
6 item.

7 EXECUTIVE OFFICER COREY: Yes. Thanks, Chair
8 Nichols.

9 So Appendix C of the 2 liter partial consent
10 decree requires investment plans noted by Volkswagen. And
11 Volkswagen must invest, as you noted, \$800 million in ZEV
12 projects in California over four consecutive 30-month
13 periods.

14 Eligible projects include installing
15 zero-emission vehicle fueling infrastructure,
16 brand-neutral consumer awareness campaigns to increase
17 awareness of ZEVs, and therefore support growing ZEV
18 vehicle market and projects that will increase access to
19 ZEVs for all consumers in California, including those in
20 lower income and disadvantaged communities. VW may also
21 invest in green city project.

22 As noted, VW recently submitted its first plan to
23 ARB. This plan is currently being reviewed by ARB staff
24 with respect to its alignment with the consent decree and
25 the guidance by ARB to VW. This presentation of the Board

1 will review key elements of the consent decree and the
2 guidance document sent to VW, and provide an overview of
3 VW's draft plan in its adherence to the consent decree and
4 guidance, recognizing we're early in the review process.

5 Ellen Peter, our chief counsel, will now make a
6 brief statement providing the legal context for this item.

7 Ellen.

8 CHIEF COUNSEL PETER: Thank you, Richard.

9 VW has signed settlement agreements with owners
10 and lessees of the 3 liter and 2 liter diesel cars with
11 its VW dealers and with various state attorney generals.
12 In addition, VWAG, the German parent company, pled guilty
13 to criminal charges and must pay a \$4.3 billion fine.

14 To date these settlements total over 20 billion
15 in liability. Moreover, many lawsuits are still pending
16 against VW around the country and around the world.

17 There are four settlement agreements that ARB
18 signed with Volkswagen. One is already approved by the
19 Court. And three agreements still need to be considered
20 by the Court probably on May 11, 2017.

21 From the settlements that ARB signed, California
22 will receive 153.8 million in penalties and costs, 423
23 million in mitigation trust monies, and an additional 25
24 million for low income Californians.

25 VW simply writes checks. They cannot touch this

1 money.

2 The market for clean cars was distorted by VW's
3 marketing of their illegal diesel cars. One of the
4 settlement agreements VW signed with ARB requires VW to
5 invest 2 billion nationwide in zero-emission
6 infrastructure and programs over the next 10 years. 40
7 percent of that amount, 800 million, must be spent in
8 California. The shorthand reference to this money is
9 Appendix C.

10 The Court-approved settlement places conditions
11 on those investments. But in contrast to the other
12 monetary relief, this is an injunctive term and it's not a
13 penalty. VW must meet the consent decree's requirements
14 contained in Appendix C, but the penalties are in other
15 parts of the agreement, not in C.

16 Because staff's update today focuses on Appendix
17 C, and since it's only one element of the agreements, I
18 wanted to make this comment first up front just to set the
19 stage.

20 Thank you.

21 EXECUTIVE OFFICER COREY: Thanks, Ellen.

22 Now, I'll ask Jeffrey Lidicker of the Emissions
23 Compliance Automotive Regulation and Science Division to
24 give the staff presentation.

25 Jeffrey.

1 AIR RESOURCES ENGINEER LIDICKER:

2 (Thereupon an overhead presentation was
3 Presented as follows.)

4 AIR RESOURCES ENGINEER LIDICKER: Good afternoon,
5 Chair Nichols and members of the Board.

6 Today I will be providing an update on the
7 implementation of the Volkswagen diesel settlement, in
8 particular Appendix C, the ZEV Investment Commitment. My
9 presentation will then provide a summary of VW's ZEV
10 Investment Plan and, finally, I will go over a timeline of
11 next steps.

12 --o0o--

13 AIR RESOURCES ENGINEER LIDICKER: Before we get
14 into the contents of the submitted Draft ZEV Investment
15 Plan, new settlement agreements have been reached between
16 VW, the U.S. EPA, and United States Department of Justice,
17 and the California Air Resources Board since the last
18 Board update in December. In addition to the approved 2
19 liter settlement, there is now a 3 liter and a civil or
20 penalty agreement pending court approval.

21 First, let's review the 2 liter settlement
22 approved by the federal judge last year. On October 25th,
23 2016, the United States District Court for the Northern
24 District of California approved a proposed partial consent
25 decree between ARB, VW, U.S. EPA, and the United States

1 Department of Justice. The consent decree partially
2 resolves Clean Air Act and California State claims against
3 VW for equipping its 2 liter diesel vehicles with defeat
4 devices. This consent decree mitigates the environmental
5 harm from the violations including the excess emissions
6 from 2 liter diesel cars on the road. There are four
7 elements of the consent decree. Each element is described
8 in a separate appendix.

9 --o0o--

10 AIR RESOURCES ENGINEER LIDICKER: The 2 liter
11 agreement requires Volkswagen to pay billions of dollars
12 to address the vehicles on the road through a buy-back or
13 fix if approved by ARB and EPA. It also establishes a
14 mitigation trust VW will pay for to mitigate excess NOx
15 emissions as well as an excess \$800 million -- \$800
16 million ZEV investment commitment. About \$381 million
17 from the NOx mitigation trust will come to California to
18 be spent by the State.

19 Under the ZEV investment commitment VW will
20 invest in eligible projects including ZEV infrastructure,
21 access to ZEVs via a green city, and awareness, all of
22 which will be discussed in more detail shortly.

23 --o0o--

24 AIR RESOURCES ENGINEER LIDICKER: The VW 3 liter
25 partial consent decree was approved upon in December of

1 last year and has not yet been approved by the judge.
2 Under the 3 liter agreement VW will continue almost \$42
3 million to -- contribute almost \$42 million to the NOx
4 mitigation trust for the State to spend, and \$25 million
5 to the Air Pollution Control Fund intended for the State
6 to spend on ZEV-related projects for low income
7 Californians. Also, in the 3 liter California agreement
8 are requirements for a second green city comprised
9 primarily of disadvantaged communities. Additionally, new
10 ZEV models and vehicle types, such as crossover vehicles,
11 are to be brought to the California market in 2019 and
12 2020. The 3 liter agreement also includes a requirement
13 that VW sell at least 5,000 new ZEVs per year in
14 California from 2019 to 2025.

15 --o0o--

16 AIR RESOURCES ENGINEER LIDICKER: Finally, a
17 civil penalty agreement, which covers both 2 and 3 liter
18 diesel engines, has been reached, but also has not yet
19 been approved by the judge. This agreement provides that
20 VW will pay \$153.8 million in penalties into the
21 California Air Pollution Control Fund in addition to
22 injunctive relief.

23 The different elements of the settlement work
24 together to address the need to make the vehicle owners
25 whole through either buy-pack or repair of the vehicles,

1 mitigation of the environmental harm caused by the
2 increased emissions coming from the cars, actions to
3 repair the green car market through the support of the ZEV
4 market and, finally, penalties to push -- punish VW for
5 wrongdoing and deter others from violating our standards.

6 --o0o--

7 AIR RESOURCES ENGINEER LIDICKER: This slide
8 summarizes the VW monetary settlements in one table, and
9 clarifies the distinct intentions for each category of
10 funding. In the far left column, the three parcel
11 settlements are listed.

12 In the middle column are the traditional monetary
13 relief sums, which are mitigation funds and penalties.

14 In the column on the right is the injunctive
15 relief, or more innovative agreement benefits. In
16 particular, the \$800 million is a commitment by VW to
17 invest in ZEV support in California. This investment is
18 expected to have global impacts that transcend the borders
19 of California, and that will hopefully support the vehicle
20 market both in California and in the rest of the United
21 States.

22 Although the funds are to be spent by VW,
23 California has retained parameters within which the funds
24 must be spent. We expect that the result is that at the
25 end of the 10-year spending commitment the investments

1 will not shut down, not be removed, but that they will
2 continue on in service. And in order for this
3 self-sustaining goal to be achieved, VW may be able to
4 benefit from its investments and a profit by year 10 is
5 possible and even necessary.

6 Although some of the monetary relief funds go to
7 a trust and some go to the California Air Pollution
8 Control Fund, in total there will be approximately \$600
9 million for the State to spend, which is completely
10 separate and different from the sum VW will spend in
11 California.

12 Total settlement funding for California amounts
13 to almost \$1.4 billion. To put the \$1.4 billion into
14 context, the national amounts VW will spend including its
15 commitment to buy back or fix affected vehicles over \$14.7
16 billion, not even including the 3 liter buyback or fixed
17 costs.

18 --o0o--

19 AIR RESOURCES ENGINEER LIDICKER: This slide and
20 the next slide summarize Appendix D, the Environmental NOx
21 Mitigation Trust, which was discussed at the December
22 Board hearing, and provide an update in light of the new
23 arrangements.

24 California will receive \$381 million from the
25 trust under the 2 liter agreement and \$42 million from the

1 trust under the 3 liter agreement to California to
2 mitigate the total lifetime excess NOx emissions resulting
3 from the use of illegal defeat devices.

4 The trust will fund specified mitigation actions
5 to replace older, dirtier, heavy-duty vehicles and
6 equipment with cleaner vehicles and equipment.

7 The consent decree specifies nine eligible
8 mitigation action categories that can be funded. They
9 include: Scrap and replace funding for on-road freight
10 and drayage trucks; transit, shuttle and school buses;
11 ferries and tugs; and off-road freight equipment;

12 Shorepower for ocean-going vessels; and

13 Up to 15 percent of the trust may also be used to
14 fund light-duty electric vehicle charging stations and
15 hydrogen refueling stations.

16 --o0o--

17 AIR RESOURCES ENGINEER LIDICKER: Based on past
18 experiences with states other than California, U.S. EPA
19 required the use of a trust for the mitigation fund. The
20 trustee, Wilmington Trust, was approved by the judge as of
21 March 15th, and the mitigation trust is expected to be
22 effective later in 2017.

23 VW will deposit the required funds into the trust
24 in three equal annual installments beginning within 30
25 days after the trust effective date. The trustee will be

1 responsible for disbursing the funds. The Governors of
2 each state will name a respective lead agency to manage
3 the trust funds allocated to that state. The lead agency
4 for California has not yet been named.

5 --o0o--

6 AIR RESOURCES ENGINEER LIDICKER: As mentioned,
7 the Governor will identify a lead agency to act on the
8 State's behalf in implementing California's allocation of
9 the trust.

10 Once the Governor has identified a lead agency,
11 that agency's task will include developing, through a
12 public process, a beneficiary mitigation plan that
13 describes the overall use of the funds; implementing the
14 beneficiary mitigation plan and the mitigation actions
15 identified in the plan; and submitting semi-annual reports
16 to the trustee on the implementation status of the
17 mitigation actions.

18 Staff will present a status update on Appendix D
19 to the Board later this year.

20 --o0o--

21 AIR RESOURCES ENGINEER LIDICKER: Now I will turn
22 to the 2 liter agreement's ZEV Investment Commitment in
23 Appendix C. This portion of the 2 liter consent decree
24 includes the following:

25 A commitment for VW to invest \$2 billion over a

1 10-year period in ZEV-related programs in the nation. Of
2 that \$2 billion, \$800 million will be invested in
3 California, which is about 40 percent of the total
4 commitment.

5 The investments will be carried out in four
6 30-month spending cycles, with about \$200 million being
7 spent in each cycle. For each ZEV investment cycle, VW
8 will submit a plan to ARB for review and approval, and the
9 investments made will be reviewed annually by a third
10 party auditor.

11 The goals of the investment plan laid out in the
12 consent decree are to promote and advance the use and
13 availability of ZEVs in California by supporting
14 transportation electrification, supporting the next
15 generation of zero-emission vehicles, growing the ZEV
16 market, and supporting access to ZEVs. This could include
17 increasing access to low- and moderate-income consumers
18 and disadvantaged communities.

19 AIR RESOURCES ENGINEER LIDICKER: The 2 liter
20 consent decree establishes eligible investment categories
21 for VW that support the goals of Appendix C.

22 These include: ZEV infrastructure, brand-neutral
23 education and public awareness campaigns, ZEV access
24 programs and a green city initiative.

25 Pending judge approval of the 3 liter Consent

1 Decree, a second green city will be funded from the 2
2 liter funds that must be comprised of primarily
3 disadvantaged communities.

4 --o0o--

5 AIR RESOURCES ENGINEER LIDICKER: We'll turn now
6 to a review of milestones to date for Appendix C and then
7 begin the summary of the VW ZEV Investment Plan.

8 Recall that the 2 liter partial consent decree
9 was approved by a federal judge in October of last year.
10 Subsequently ARB held a public workshop, a public Board
11 hearing, and a public open comment period last year
12 specifically to gather public comment to use in developing
13 the guidance document, which ARB submitted to VW on
14 February 10th of this year.

15 The guidance document represents a summary of
16 California's priorities and advice based on public input
17 regarding ZEV investment opportunities consistent with the
18 objectives and criteria set forth in Appendix C.

19 VW's draft ZEV Investment Plan was posted online
20 for public access and comment on March 14th. At the same
21 time, a notice went out via listserv to notify members of
22 the public that the draft plan was available.

23 --o0o--

24 AIR RESOURCES ENGINEER LIDICKER: ARB approval of
25 the VW ZEV Investment Plan is based primarily on the terms

1 of the 2 liter Partial Consent Decree, specifically in
2 Appendix C. All spending in the plan must be within the
3 eligible spending categories of ZEV Infrastructure, ZEV
4 Access, ZEV Awareness, and Green City.

5 Examples of specific requirements for projects
6 include brand-neutral ZEV public awareness efforts; and
7 should VW create any new companies or services to comply
8 with the consent decree, such as a car-sharing company, EV
9 freight service, or an EV charging company, all associated
10 marketing cannot mention any automobile brand in writing
11 or display any automobile brand logos.

12 --o0o--

13 AIR RESOURCES ENGINEER LIDICKER: The consent
14 decree also requires that the ZEV Investment Plan:

15 Provide a description of all ZEV investments, contain
16 an explanation of how each investment makes progress
17 towards and/or meets one or more of the goals identified
18 in the consent decree;

19 Contain an estimated schedule for implementing
20 each investment and milestone of each project in 6-month
21 intervals; and

22 Contain projections of anticipated credible costs
23 associated with each investment broken out by 12
24 stipulated accounting categories.

25 --o0o--

1 AIR RESOURCES ENGINEER LIDICKER: I'll turn the
2 presentation now to a summary of VW's first ZEV investment
3 plan submittal. ARB received the plan about two weeks ago
4 and it is undergoing review.

5 --o0o--

6 AIR RESOURCES ENGINEER LIDICKER: To start, this
7 slide shows a breakdown of how VW proposes to split its
8 first \$200 million investment cycle funds.

9 The table shows in millions of dollars the
10 approximate allocation of first-cycle funds by spending
11 category. You can also see the national spend along with
12 California numbers and the totals along the bottom.

13 As you can see, with the national investment of
14 \$300 million, the total VW investment in California and
15 the nation combined will be half of a billion dollars.

16 For California, VW proposes to spend \$120
17 million, or 60 percent of the budget, on ZEV
18 infrastructure; \$44 million, or 22 percent, on Green City
19 initiatives; and \$20 million, or 10 percent, on ZEV
20 education and access programs. Overhead for all of these
21 activities is projected to be less than 10 percent.

22 --o0o--

23 AIR RESOURCES ENGINEER LIDICKER: I will now
24 summarize the EV charging network vision that VW includes
25 in its plan submittal.

1 For locations with long parking times, such as at
2 multiple unit dwellings and at the workplace, VW's plan
3 includes installation of level 2 chargers that have
4 approximately 7.2 kilowatts of power. This power equates
5 to about 20 minutes of range for each hour charge. These
6 installations would benefit a broad cross-section of
7 drivers who have not been served by the traditional
8 at-home charging model.

9 For locations with medium parking times, such as
10 at retail or municipal garages, VW's plan includes
11 installation of level 2 chargers or even 50 kilowatt DC
12 Fast Chargers. VW's plan also includes experimental
13 community depots. These community depots would be
14 conveniently located adjacent to multi-unit dwellings but
15 don't currently have charging access, and will provide
16 fast-charging capabilities.

17 This new concept simulates a gasoline station and
18 has the potential to serve disadvantaged communities.
19 VW's plan notes that some of these community depot
20 stations may be at the "super" 150 kilowatt power level
21 for even faster charge times. DC fast chargers installed
22 to date are typically only 25 to 50 kilowatts by
23 comparison. The community depots are a new concept that
24 would provide data and learnings for the future.

25 For locations with extremely short parking times,

1 such as along highways, VW's plan includes installation of
2 150 kilowatt super fast chargers and also some 320
3 kilowatt chargers. These very high-powered chargers are
4 designed to respond to anticipated future ZEV needs.

5 The plan describes bringing two innovations to
6 the market with these investments: The community depots
7 designed to function as electric gas stations for those
8 who cannot charge at home, and highway fast chargers that
9 are up to six times faster than currently installed
10 chargers. Chargers this fast could provide 200 miles of
11 range in potentially just over 10 minutes.

12 --o0o--

13 AIR RESOURCES ENGINEER LIDICKER: This slide
14 shows the overall EV charging infrastructure budget and
15 timeline in the plan for the first 30 months. The plan
16 allocates \$40 million, or one-third of the budget, to the
17 community-based or local charging networks, which would be
18 expected to yield over 350 stations.

19 \$65 million, or 54 percent of the budget, is
20 allocated to the long-distance highway network, which
21 would be expected to yield over 50 stations.

22 According to ARB's estimate, the total \$120
23 million investment in EV chargers is expected to satisfy
24 less than 10 percent of California's estimated demand
25 based on the State's goal to have enough infrastructure in

1 the State to support 1 million ZEVs by 2020.

2 This table, reproduced from the VW ZEV investment
3 plan, shows the approximate timeline for the development
4 and installation of the EV charging stations over the
5 first 30 months.

6 Even more chargers could be installed in
7 subsequent 30-month cycles. Adherence to this timeline is
8 dependent upon when the ZEV Investment Plan is approved by
9 the State.

10 --o0o--

11 AIR RESOURCES ENGINEER LIDICKER: VW's ZEV
12 Investment Plan describes how the infrastructure plan was
13 developed. This includes the use of a gap analysis to set
14 the number of charging stations and their proposed
15 locations. This gap analysis is based on the difference
16 between the currently installed infrastructure and the
17 projected demand. VW's proposal is to locate stations
18 where they are most needed after taking into account
19 existing stations. This would mitigate the effect on
20 existing companies, as any location that already has
21 adequate infrastructure won't be considered for new
22 stations.

23 The Plan describes the total investment amount
24 for EV infrastructure in the first 30-month cycle as being
25 \$120 million. Lastly, the Plan states that the planned

1 network will be interoperable, meaning that there will be
2 universal access. All chargers would accept several forms
3 of payment, including credit cards, and all nonproprietary
4 charging standards would be supported.

5 --o0o--

6 AIR RESOURCES ENGINEER LIDICKER: This slide
7 details -- shows the details of the community or local
8 charging network described in the Plan submittal.

9 The Plan states that over 350 EV charger stations
10 are targeted to be installed in communities. The plan
11 calls for a mix of charger types including level 2 and
12 multiple power level DC fast chargers. Installations in
13 multi-unit dwellings and workplace locations, on which an
14 emphasize was placed at the Board hearing in December,
15 would benefit underserved communities.

16 As I'll describe further in coming slides, VW
17 proposes an initial focus for its community and local
18 charging in five metropolitan areas of California.

19 --o0o--

20 AIR RESOURCES ENGINEER LIDICKER: Cash guidance
21 to VW articulated the need for investments not to be
22 sprinkled all over the entire state and to learn from
23 mistakes made in the past where some installed
24 infrastructure has gone unused.

25 VW's plan selects for EV charger installations

1 five major metropolitan areas that cover the majority of
2 the projected ZEV adoption. VW notes that other areas may
3 be included in subsequent spending cycles.

4 VW's approach would insure initial investments
5 are utilized, which will ultimately drive success
6 throughout the State of subsequent investments. The
7 following slide describes the methodology laid out in the
8 plan in more detail.

9 --o0o--

10 AIR RESOURCES ENGINEER LIDICKER: This image
11 comes from the VW ZEV Investment Plan and shows the
12 process VW describes in the plan to select the five areas
13 for EV charging installation in the first spending cycle.
14 The VW plan states that the decision process for selecting
15 these areas and allocating funds included an analysis of
16 each region's projected needs versus current supply.

17 --o0o--

18 AIR RESOURCES ENGINEER LIDICKER: Switching now
19 to the long distance network chargers, this is a map
20 provided by VW in the ZEV Investment Plan submittal that
21 shows the upper two quartiles of the CalEnviroScreen in
22 red and yellow. Imagine, if you will, a highway network
23 of approximately 50 stations spanning east to west and
24 north to south.

25 VW's plan states that roughly 25 percent of these

1 chargers will be in communities in the top quartile of the
2 CalEnviroScreen scores, and over 50 percent, or half, of
3 the chargers will be in communities in the upper half of
4 the CalEnviroScreen.

5 These DC fast charger stations may act as anchor
6 investments supporting communities that currently have
7 little or no ZEV infrastructure. Installation of over
8 half of the VW long-range EV charger stations in
9 disadvantaged communities may spur EV adoption.

10 Characteristic of long-range charging is the
11 desire for the shortest possible charge time. To answer
12 this challenge, VW proposes a network that would consist
13 of 150 kilowatt and 320 kilowatt chargers, which are three
14 to six times faster than current DC fast charger
15 equipment. These higher power DC fast chargers will
16 enable fast charging times for vehicles on the horizon
17 with longer range. In short, these chargers will be
18 future proofed against technology development over time.

19 VW describes a network that would cover about 12
20 highways, with each site in the network having an average
21 of five plugs with some of each charging standard.

22 --o0o--

23 AIR RESOURCES ENGINEER LIDICKER: This table from
24 the VW ZEV Investment Plan shows more detail about the
25 charger network locations. The Plan's goal is to create a

1 California highway network designed to place high speed
2 charging stations along the long-distance routes with the
3 highest estimated ZEV traffic, as well as to link the
4 prioritized metro areas to form a cohesive statewide
5 network. Many of these locations could also serve
6 disadvantaged communities.

7 --o0o--

8 AIR RESOURCES ENGINEER LIDICKER: Now I will move
9 on to the Green City portion of the VW ZEV Investment Plan
10 submittal.

11 If the 3 liter agreement is approved by a judge,
12 there will be two Green Cities, with the second one
13 predominantly consisting of disadvantaged communities.
14 Thus, VW's Plan selects the first Green City based on its
15 composition of disadvantaged communities secondarily and
16 primarily for its potential success and potential
17 benefits.

18 This first city will grow the Green City
19 technology and business models, which do not exist
20 anywhere in the U.S. at this time.

21 It will spread the word to other cities, acting
22 as a demonstration ground and as an example or model.

23 Lessons learned from this city would inform
24 planning and decisions for the second Green City and
25 contribute greatly to the second Green City's likelihood

1 of success.

2 Although the Plan envisions investing in several
3 services and models relying on technology not yet
4 developed, such as possibly autonomous vehicles in later
5 spending cycles, VW proposes that the first spending cycle
6 consist of ZEV car-share and ZEV delivery services. These
7 are intended to increase accessibility of ZEVs to city
8 inhabitants and create a green mobility habitat. The Plan
9 sees these initiatives as serving as pilots to help spur
10 the widespread adoption of ZEVs and mobility services.

11 --o0o--

12 AIR RESOURCES ENGINEER LIDICKER: As mentioned,
13 VW's stated objectives for the Green City program are to
14 offer a set of ZEV initiatives that are accessible to the
15 city inhabitants and create a green mobility habitat.
16 These initiatives should be leveraged to offer residents
17 better quality of life through enhanced mobility and
18 improved air quality.

19 This edited figure also comes directly from the
20 VW ZEV Investment Plan and presents the analysis that led
21 to identification of the first Green City candidates.

22 Step 1 on the figure indicates that VW began its
23 analysis by looking for a city with a population size of
24 greater than 400,000 residents, which the Plan describes
25 as a city large enough for scalability of projects, with

1 demand for car-sharing programs and the potential for
2 increasing ZEV access to disadvantaged communities.

3 Step 2 on the figure indicates that VW evaluated
4 each of the remaining cities for Mobility Fit, which it
5 further defined in the displayed subfactors: Mobility
6 demand or the VMT of the city, the community flow patterns
7 specific to the city, and an evaluation of the other
8 transport services available within the city (such as
9 Car-share or Uber or otherwise). The plan explains that
10 these factors are considered against the functionality of
11 ZEVs that will be used in the Green City programs.

12 Step 3 on the figure indicates that VW then
13 evaluated the cities for potential impact, which is
14 further defined in the displayed subfactors: Societal
15 Impact, which refers to the magnitude of the potential
16 change; Implementation Feasibility, which refers to the
17 practicality of implementing such programs in a particular
18 city; and Awareness Impact, which refers to the potential
19 impact on city residents and possibly other entities
20 outside the city.

21 The Plan then combined the scores from steps 2
22 and 3 to arrive at a final score for each city. You can
23 look at the posted ZEV Investment Plan on ARB's website to
24 see the weighting system described in the Plan. ARB staff
25 are still evaluating this city selection process.

1 --o0o--

2 AIR RESOURCES ENGINEER LIDICKER: The Plan
3 identified three potential Green City initiatives on which
4 to focus: ZEV car-sharing, ZEV delivery fleet, and a ZEV
5 taxi fleet provider. To support these initiatives, the
6 Plan proposes the installation of approximately 50 EV
7 chargers for the ZEV Car-share program and 25 more for the
8 ZEV delivery fleet in the first 30-month cycle.

9 The Plan's proposed first Green City is
10 Sacramento.

11 --o0o--

12 AIR RESOURCES ENGINEER LIDICKER: Moving on to
13 the ZEV Awareness Campaign outlined in the VW ZEV
14 Investment plan, we see a budget of \$20 million in
15 California for this first 30-month cycle.

16 These programs must be brand neutral, as
17 stipulated in the consent decree, and must not feature or
18 favor VW group vehicles. However, they may say "sponsored
19 by VW" at the end, but neither that message nor VW's name
20 or brand may be prominently displayed.

21 The VW ZEV Investment Plan describes a multimedia
22 or multi-channel ZEV awareness campaign. The proposed
23 multimedia approach utilizes each media channel to deliver
24 a different part of the message. The Plan states that VW
25 would utilize television to expand the audience and

1 familiarize the audience with ZEVs, and outdoor
2 advertising such as billboards or consistent signage at
3 charging stations to show the benefits of ZEVs and
4 charging infrastructure. Digital media, experiential
5 programs, and partnerships with other entities are
6 proposed to further deliver different parts of the
7 message.

8 One example given by the Plan is that television
9 may be used in phase 1 to raise the overall ZEV awareness,
10 while on-line digital media could be used in subsequent
11 phases to disseminate more specific messages and deal with
12 particular issues associated with ZEVs.

13 VW describes plans for experiential initiatives
14 like ride-and-drive events under Public Access
15 Initiatives. In the National Plan, ride-and-drives are
16 considered Public Access Initiatives. California,
17 however, cease sees these activities as public awareness
18 building activities and not access activities.

19 --o0o--

20 AIR RESOURCES ENGINEER LIDICKER: That concludes
21 our summary of VW's ZEV Investment Plan submittal. I'll
22 talk now about how we will go about evaluating the plan.

23 ARB staff is soliciting public comment and
24 direction from the Board on the evaluation of the VW ZEV
25 Investment Plan for consistency with the goals and terms

1 of Appendix C. ARB will approve or disapprove the plan,
2 in whole or in part.

3 Key metrics of the evaluation process will
4 include the plan's adherence to the requirements set forth
5 in the 2 liter consent decree.

6 Quickly, some of the consent decree requirements
7 for what must be included in the Plan are:

8 The plan should include a description of all
9 investments.

10 It should detail how each investment makes
11 progress toward one or more of the goals of the consent
12 decree.

13 EV charging should be able to service all ZEVs
14 with nonproprietary connectors.

15 ZEV investments should not be concentrated in a
16 single area of the State.

17 Investments cannot include research and
18 development.

19 The plan must address charging station
20 maintenance.

21 The plan must include charger implementation plan
22 details, a description of how VW will monitor and
23 maintaining each ZEV investment, the anticipated
24 creditable costs associated with each project, and an
25 estimated schedule for implementing each investment in

1 six-month intervals.

2 --o0o--

3 AIR RESOURCES ENGINEER LIDICKER: Other key
4 metrics to evaluate the plan include those laid out in the
5 Guidance document sent to VW containing further
6 information to be included in the plan and provided
7 information regarding ZEV investment opportunities that
8 are consistent with the objectives and criteria set forth
9 if Appendix C. The Guidance reflects the public input
10 received through late 2016. These include the following:

11 Early, visible progress.

12 Projects that are transformational.

13 EV infrastructure that includes multiple unit
14 dwellings, workplace, public, and long-range sites.

15 Investments be complimentary and additional.

16 Programs prioritize disadvantaged, low-income,
17 and disproportionately impacted communities.

18 Investments include business competition and
19 conduct considerations, including a self-sustaining model.

20 That the Awareness campaign include
21 multi-lingual, multi-cultural elements.

22 Access in Green Cities that prioritize
23 disadvantaged communities and track performance.

24 That Data collection and reporting is important
25 and expected.

1 And encouragement of hydrogen infrastructure
2 investment.

3 --o0o--

4 AIR RESOURCES ENGINEER LIDICKER: After ARB has
5 approved the ZEV Investment Plan, VW has a lot of work to
6 do in a short time frame.

7 VW has to coordinate the site selection process
8 with input from multiple stakeholders including state
9 agencies, local authorities, and site hosts.

10 After that will be site permitting and the
11 negotiating and signing of up to hundreds of contracts.

12 In short, VW will have to spend at an
13 unprecedented rate for an extended period of time.

14 --o0o--

15 AIR RESOURCES ENGINEER LIDICKER: This slide
16 reviews the timeline and the process for ARB's eventual
17 decision on the VW ZEV Investment Plan.

18 The Draft plan was posted on March 14th. Public
19 comment was also opened on this same day with a notice on
20 the website and an invitation for public comment via
21 listserv.

22 A legislative hearing was held on March 21st and
23 the ZEV Investment Plan has been presented to the Board
24 today.

25 The public comment period will close April 10th,

1 almost a month after it opened.

2 Briefings for various entities such as
3 legislators and interested Board members will be held, and
4 the target dates for preparing and issuing the decision is
5 late April.

6 --o0o--

7 AIR RESOURCES ENGINEER LIDICKER: But the process
8 does not end once a ZEV Investment Plan is approved. VW
9 will present to ARB staff every six months on its
10 progress, as well as submit written reports to ARB
11 annually.

12 VW has requested ongoing coordination with state
13 and local agencies. The goal is to collaborate on site
14 selection, dialogue with utilities, and help with
15 permitting and easement efficiencies.

16 Working with state agencies will provide
17 additional oversight and help the projects complement the
18 state's investments, and afford the opportunity to ensure
19 project implementation meets the state's goals, especially
20 for investment in disadvantaged communities. ARB's new
21 Assistant Executive Officer for Environmental Justice is
22 expected to be part of this group.

23 Additionally, an independent third-party auditor
24 will provide annual reports on spending and accounting for
25 all projects related to the Plan.

1 And just with you think it's time to rest --

2 (Laughter.)

3 AIR RESOURCES ENGINEER LIDICKER: -- there will
4 be ZEV Investment Plan 2, then the 3rd, and finally the
5 4th over the next 10 years. ARB will main a public and
6 transparent process throughout this 10-year investment
7 period.

8 --o0o--

9 AIR RESOURCES ENGINEER LIDICKER: The investments
10 to be made by VW are coming at a critical time, as the ZEV
11 market ramps up in the coming years. These programs and
12 services have the potential to be transformative and
13 highly supportive of California's efforts to grow the ZEV
14 market and broaden the reach of electrified transportation
15 to all Californians, include those in disadvantaged
16 communities. Beyond California, this commitment by VW has
17 the potential to support additional ZEV markets critical
18 to the overall success of ZEV transportation.

19 Finally, we look forward to keeping the Board
20 informed about the VW ZEV Investment Commitment.

21 Thank you for the opportunity to provide this
22 update.

23 CHAIR NICHOLS: Okay. Let me just make a couple
24 comments before we get started with the witnesses.

25 First of all, I think we're going to invoke the

1 two-minute rule from the beginning here --

2 (Laughter.)

3 CHAIR NICHOLS: -- with 45 people who want to
4 comment. And the amount of comment that's been included
5 already in this process, I don't think we need to have the
6 three minutes from everyone.

7 However, that doesn't mean that we're not going
8 to be hearing from you; because as you can tell, this is a
9 long process. We're going to be with -- we're going to be
10 with this plan for many, many years. And that's a good
11 thing. But we want it to begin in as strong and
12 successful a way as we possibly can.

13 This is -- it's going to be an interesting
14 relationship.

15 I want to make sure that two things are clear.
16 First of all, I don't want to have this Board having to
17 hear every change in the plan, every adjustment in the
18 amount of money that's going to one category or another or
19 every issue that comes up with respect to a project. I
20 expect we'll be hearing from our constituents, you'll be
21 hearing from people on an ongoing basis. We're going to
22 want to be informed. And ultimately I suppose, at least
23 somewhere along the way before we get to the end of the
24 first period, we're going to want to audit, in effect, the
25 expenditures. And I want to be sure from staff that

1 that's your understanding, that we're going to be in a
2 position to do that.

3 I see head nodding, but I just want that to be
4 clear. Because right now what we're looking at is a
5 proposed expenditure plan, which has a fair amount of meat
6 on the bones, but still has a lot of missing detail which
7 will have to be developed in order for them to actually
8 spend the money.

9 Having had conversations with company in, you
10 know, recent weeks, I'm convinced that they are moving
11 fast and smart to figure this out.

12 But we're not going to be sitting back here in a
13 month, you know, line by line going through the
14 expenditure plan.

15 So Mr. Ayala or Mr. Corey, do -- or Ellen,
16 whoever.

17 Ms. Peter.

18 CHIEF COUNSEL PETER: Yes, Chair Nichols. In
19 terms of your request for the audit, built into the
20 consent decree is a third-party reviewer that we approved.
21 And that reviewer will go out and check on the different
22 aspects of it when -- including the money, including the
23 installation since we have on-the-ground checking. We
24 didn't want to take that on ourselves. That's not what we
25 do. But they at their expense has to go out and confirm

1 that these things are actually being built.

2 One of the questions that had come up before in
3 other charging situations is maintenance. We've had
4 people come in over the years talking about things not
5 being maintained. In the consent decree, maintenance is
6 required. And this is one of the things that the
7 third-party reviewer will collect that kind of data. So
8 we were trying to design a program, seeing problems we've
9 seen before, build that in, and then also make Volkswagen
10 pay for reviewer to go check that data. So that's built
11 in. Every six months there's a report back to ARB, a
12 meeting at least once every six months. There's annual
13 reports; those would be made public, including the
14 third-party reviewer and the audit. So we want to make
15 sure the money's going where it's supposed to go.

16 CHAIR NICHOLS: Okay. Thank you.

17 With that, let's start with our list, and begin
18 with Larry Greene from the Sacramento Air Quality
19 Management District.

20 MR. GREENE: Thank you. Thank you, Chairman
21 Nichols and members of the Board. I'm pleased to be here
22 and have this opportunity to testify on behalf of my board
23 and our collaborative partners in the Sacramento region.

24 We commend the Board and staff for staying the
25 course on ZEVs and your great work on the VW case.

1 My testimony is in support of Sacramento as the
2 initial Green Cities location. I guess that's a surprise,
3 right?

4 (Laughter.)

5 MR. GREENE: Our district is part of a strong
6 network in our region. Our PEV collaborative, Take Charge
7 Sacramento, has regular meetings already to coordinate ZEV
8 efforts, and includes the city and county of Sacramento
9 sustainability managers, our fleet managers, our district,
10 SMUD, SACOG, Sac airports and other partners in our
11 region. It's already in place and prepared to help and
12 participate in the effort that -- the Green Cities effort.

13 We coordinate with and apply for grants through
14 the Air Resources Board, CEC, U.S. EPA, and DOE. We have
15 active grants for 29 EV school buses; 8 EVs and a car
16 sharing program in low-income areas; and are developing a
17 robust light-duty EFMP Program.

18 All those programs that I spoke of are directly
19 in or support our CalEnviroScreen communities in
20 Sacramento.

21 We're also collaborating with our regional
22 partners in developing and deploying hydrogen fuel cell
23 locomotive retrofits and hydrogen fuel cell Class A
24 tractors. So we have other kinds of activities that are
25 underway in our area too.

1 This program will roll out in Sacramento overlaid
2 on a robust and experienced set of partners that are ready
3 to help and participate. We will help this effort be
4 successful and look forward to the journey.

5 Thank you.

6 CHAIR NICHOLS: Thank you.

7 MR. SCHEMBRI: Thank you, Chairman Nichols and
8 Board for the opportunity to comment today and for your
9 leadership in ZEV deployment across California.

10 I'm Dave Schembri, CEO of EVgo, the largest
11 provider in the nation and in California of public
12 fast-charging services for all EV models. As of today,
13 approximately 90 percent of the State's population, or 35
14 million Californians, live within 35 miles of at least one
15 EVgo fast-charging freedom station.

16 We believe that the EV charging industry is at a
17 critical inflection point, needing a massive investment in
18 charging infrastructure. EVgo has been and will continue
19 to make investments in California and across the country.
20 But we enthusiastically welcome the \$800 million in
21 California and \$1.2 billions elsewhere in the U.S.
22 committed under the settlement agreement that will help a
23 broader deployment of EVs.

24 EVgo believes that this funding with the
25 oversight of the Board and active participation of a broad

1 array of private sector EV charging service providers and
2 suppliers will be critical to making widespread EV
3 adoption possible.

4 Cycle 1 of the California ZEV Investment Plan is
5 critical to ramping up an effort that focuses on public
6 charging infrastructures in cities and highways while also
7 laying the groundwork for sustained funding over the life
8 of the settlement.

9 Drivers want EV charging to be easy, accessible,
10 and affordable. EVgo is one of many private-sector
11 participants seeking to do just that. And the bulk of
12 those industry representatives believe that the additional
13 capital into the sector through Cycle 1 will definitely
14 help that effort.

15 So in conclusion: And we're committed to
16 fulfilling the vision of public charging infrastructure
17 for all. We support Cycle 1 and look forward to
18 continuing to work with the Board over the coming months
19 and years to ensure that this and subsequent segments of
20 the plan work to make EV charging accessible to all
21 Californians.

22 Thank you.

23 DR. LANGDON: First of all, thank you for this
24 California ZEV Investment Plan and all the great work that
25 went into this. And thank you for letting me comment.

1 My name is Chris Langdon. I am a research
2 associate professor at the Peter Drucker School of
3 Management at Claremont Graduate University, which is
4 located nearby.

5 Our school has submitted a proposal to
6 Volkswagen, and we are a little bit concerned that
7 something may be overlooked. What we are concerned about
8 can be summed up in just one word: "Customer."

9 Peter Drucker is the father of modern management,
10 and he once famously said, "If there is one purpose in
11 business, it is to create a customer." And though we all
12 agree with this, in reality customer centricity is too
13 often an afterthought. Too often there's a great deal of
14 excitement focused only on the technology side alone.

15 And let me quickly give you two examples in
16 transportation to illustrate the point.

17 Driver assistant systems. Automakers have spent
18 lots of money on this technology. On paper, this
19 technology makes sense. It saves lives. But many
20 customers switch it off. Why? Because it beeps and
21 blinks and distracts us. The fact that the customer has
22 been an afterthought is limiting the technology.

23 And then the example of EV sales. Most people
24 don't drive more than 40 miles per day; and engineers have
25 confirmed this in many, many market tests; and therefore,

1 they gave their cars double and triple the range just to
2 be safe.

3 And yet, hardly anybody of us is buying EVs.
4 Why? Because we as customers have anxiety that these
5 vehicles don't have enough range and they're not
6 convenient enough for us.

7 In engineering theory, 120 miles should be more
8 than enough. But not in consumer psychology.

9 And this brings me to my point: Your initiative
10 will invest some 120 million in creating more ZEV
11 infrastructure. Is this what is truly holding back the
12 ZEV future?

13 In closing, if Peter Drucker were still alive
14 today, he would remind us to first do the right thing and
15 before doing it right.

16 So, and bad customer centricity including
17 customer economics and consumer psychology.

18 Thank you very much.

19 CHAIR NICHOLS: No questions?

20 I have a question for you, Mr. Langdon.

21 My understanding is that you or some of your
22 colleagues have actually submitted a research proposal to
23 use some of the funds for that purpose.

24 MR. LANGDON: Yeah, we could use an existing
25 fleet to run experiments, you know, standard academic

1 research. We try to understand how can we really make
2 this more attractive for customers. In other -- yeah,
3 sorry.

4 CHAIR NICHOLS: No, I understand. I think it's
5 very interesting.

6 I guess my question is, is that actually
7 consistent with the consent decree? Can we use it for
8 that purpose? I know the company is doing its own -- I
9 mean quite a bit of internal -- some -- presumably paying
10 for some research to be done. But I don't whether they're
11 charging it against the fund.

12 CHIEF COUNSEL PETER: So research is not a
13 credible cost. But it -- it's like the Devil's in the
14 details. I don't understand what their proposal is. I
15 don't know -- you could -- VW can spend more than 800
16 million.

17 CHAIR NICHOLS: Of course.

18 CHIEF COUNSEL PETER: So you could actually --
19 they could give access to them to the data potentially. I
20 mean, there's different ways to do it. So I can't really
21 comment one way or the other. But pure research is not
22 eligible because we didn't want to have Volkswagen
23 frankly, you know --

24 CHAIR NICHOLS: We want actual --

25 CHIEF COUNSEL PETER: We want projects on the

1 ground.

2 CHAIR NICHOLS: Stuff, stuff. But at the same
3 time, in the plan that they submitted to us - and I
4 believe this is in the public plan - it indicates that
5 they've done quite a lot of analysis and modeling of where
6 there's a need and -- as you said, that they've thought a
7 lot about infrastructure. So the question is, if we
8 were -- well guess I can begin and ask the question of the
9 company, what are they thinking in terms of where they
10 should be further asking questions.

11 So thank you.

12 MR. LANGDON: Thank you.

13 BOARD MEMBER SHERRIFFS: Can I -- along those
14 lines though, there is money in the settlement for public
15 education and awareness. And this would certainly -- I
16 mean, that's the implication of this, which is so
17 important. It's great to have highlighted that. I don't
18 know if research per se is going to fit in. But there
19 clearly is money in the settlement, yes, for public
20 awareness and outreach.

21 CHAIR NICHOLS: Okay. Thank you.

22 All right. Next.

23 MR. GROSS: Good afternoon, Chair Nichols and
24 Board members. My name is Tom Gross with Southern
25 California Edison.

1 Edison appreciates the opportunity to speak on
2 the first draft of the California Zero-emission vehicle
3 Investment Plan. Edison supports efforts to increase the
4 availability of electric vehicle infrastructure. We
5 recognize that zero-emission technology is essential to
6 the attainment of the national ambient air quality
7 standards and the State's GHG goals.

8 Electric vehicles with their storage capabilities
9 have the added benefit of allowing for greater utilization
10 of renewable energy.

11 The Volkswagen Zero-emission Vehicle Investment
12 Plan has a number of elements that have already been
13 articulated. And Edison supports these ideas as a part of
14 the plan. The State investor-owned utilities, as directed
15 in SB 350, have submitted applications to the CPUC for a
16 variety of electrification projects; some for light-duty
17 vehicles, others for heavy-duty projects. But there's a
18 great need for additional infrastructure and there's ample
19 space for both the investor-owned utilities projects and
20 the VW plans articulated here.

21 SCE looks forward to closely collaborating with
22 Electrify America on these important projects.

23 Thank you.

24 CHAIR NICHOLS: Thank you.

25 MS. REGE: Good afternoon, Chair Nichols and

1 members of the Board. I'm Julia Rege, Director for
2 Environment and Energy at the Association of Global
3 Automakers.

4 Global Automakers' companies sell 56 percent of
5 the vehicles purchased in California. And Global
6 Automakers has always and will continue to support that
7 all options of -- technology options will be needed to
8 achieve ZEV and climate-change goals going forward. And
9 so our companies are investing billions of dollars in
10 advanced technologies. That means plug-in hybrids,
11 battery electric, and fuel cell electric vehicles.

12 We appreciate the work that's been done to date
13 on the investment plan, but we are concerned it's too
14 narrowly focused on plug-in options. We recommend that
15 the plan include hydrogen as well and devote a portion of
16 funds specifically for hydrogen infrastructure. The
17 inclusion of this will help support this all-inclusive
18 approach that is needed going forward for a low-carbon
19 light-duty transportation fleet.

20 Thank you.

21 MR. LORD: Good afternoon. Nice to be up close
22 again today. I have a quick statement on the Volkswagen
23 Investment Plan. And my name is Michael Lord with Toyota
24 Motor North America.

25 Toyota fully supports ARB's technology-neutral

1 approach to vehicle electrification, and strongly agrees
2 with ARB's view that the VW Investment Plan should follow
3 the same principle and support the rollout of both plug-in
4 and fuel cell technologies.

5 As ARB has recognized, both battery and fuel cell
6 technologies will be critical and necessary to meet the
7 State's clean air and climate goals, and Toyota supports
8 the use of plan funds to support the market for both.

9 We believe the lack of investment in the
10 investment plan on hydrogen hurts the rollout of fuel cell
11 vehicles in relation to battery electric vehicles. By
12 failing to acknowledge the essential role that hydrogen
13 will play in electrification, not just in the light-duty
14 fleet but across the transportation spectrum, the current
15 proposal will seem to follow only one pathway, and a
16 pathway that not all manufactures are pursuing, in the
17 sense a proposal may not only fall short of being
18 technology neutral and serving ZEVs with nonproprietary
19 connectors, but also is arguably not brand neutral.
20 Toyota therefore urges ARB to work with VW to assure that
21 hydrogen is included in this and subsequent investment
22 plans.

23 Thank you.

24 MS. CHEN: Good afternoon, Chair Nichols, members
25 of the Board. I'm Patricia Chen with the countywide

1 planning department at the L.A. County Metropolitan
2 Transportation Authority, or Metro.

3 Metro is the regional transportation planning,
4 programming, construction, and transit operator authority
5 for Los Angeles County. We are located in the South Coast
6 Air Basin, which is a nonattainment area for both
7 particulate matter and ozone. With 26 percent of the
8 State's population and its registered vehicles, including
9 those affected by the settlement, to fully address the
10 Plan's goals, VW must invest significant resources in Los
11 Angeles County. We're grateful for the opportunity to
12 share a few thoughts regarding VW's public plan.

13 We support the inclusion of both community and
14 highway depots in the Plan network vision for chargers.
15 Our EV charger proposal seeks to install EV chargers at 93
16 commuter sites, with access to our rail and fixed guideway
17 customers, making over 400 million boardings per year.

18 Forty of these sites also happen to be located at
19 or near freeways. Widespread availability of chargers in
20 park-and-ride lots will encourage commuters to consider
21 acquiring electric vehicles. So we hope to be considered
22 under the plan.

23 I also want to mention that we agree with the
24 February 10th ARB guidance that transit is an important
25 element of the zero-emissions vehicle charging and

1 deployment system.

2 For our proposed battery electric upgrade of the
3 popular Orange Line busway, the on route chargers are a
4 meaningful incremental investment that can help bridge the
5 gap between current technology and operational challenges.

6 (Laughter.)

7 MS. CHEN: Okay. I wanted to just say that we
8 really appreciate the investment contemplated in
9 disadvantaged communities and also support the other
10 important proposals coming from L.A. County sponsors.

11 Thank you again for the opportunity to comment.

12 CHAIR NICHOLS: Thank you for being here.

13 MS. ADAMS: Hi. My name is Kitty Adams. I'm the
14 Executive Director of Adopt a Charger. Adopt a Charger's
15 a nonprofit organization that solicits sponsorship to
16 install electric vehicle chargers in places like national
17 parks, state parks, museums, and universities.

18 I wanted to thank CARB staff, Board members, and
19 Commissioner Nichols for leading the charge on this. I
20 think this is a wonderful opportunity. In the investment
21 plan they specifically mentioned the California State
22 Parks. I was happy to see that because it aligns with
23 Governor Brown's 2016 ZEV Action Plan that's requiring
24 charging at the parks.

25 I've been working in the park setting for --

1 since 2011. These are difficult areas to commercialize.
2 The installations are very expensive. And in addition to
3 this, these locations, these high profile destination
4 locations, the intent is to go beyond just charging cars
5 and educate the public. So when we can get the EV curious
6 to engage in conversation with an actual owner, they're
7 going to learn about the benefits of driving these cars.

8 Another important aspect of these chargers at the
9 parks is it supports the greening of the fleet. It's
10 allowing them to transition their light-duty fleet to
11 plug-in electric vehicles.

12 Another important aspect to me is the 6,000
13 employees of the State Parks. This is low-hanging fruit
14 when it comes to selling cars. There's actually pent-up
15 demand with these people to purchase these vehicles.

16 This investment also complements the CEC grant
17 that was awarded to Adopt a Charger in 2014 on behalf of
18 the State Parks. Part of this we just completed a
19 district-wide survey and we'll be able to prioritize the
20 next round of parks to receive funding.

21 So thank you very much for considering the parks
22 in this investment.

23 CHAIR NICHOLS: Thanks for your work.

24 MR. SHUMAKER: Perhaps I don't need an
25 announcement?

1 Go ahead and start.

2 My name is Cory Shumaker. Thank you again for
3 allowing me to comment on the VW settlement. I represent
4 the California Hydrogen Business Council comprised of a
5 hundred companies.

6 Fuel cells offer a long range and fast refueling
7 capability that is not limited to light-duty vehicles, but
8 can offer -- also offer options for public transport,
9 transit, medium- and heavy-duty goods movement. And it's
10 also good to note that hydrogen is already at least 33
11 percent renewable. So I'd like to leave you with three
12 points.

13 Historically the State has been agnostic in its
14 support for technologies that offer zero tailpipe
15 emissions, which include fuel cell electric vehicles.

16 The CHBC membership voices its profound
17 disappointment in that of the \$200 million first round of
18 Volkswagen investment settlement, zero dollars were
19 allocated to hydrogen fuel cell infrastructure in vehicle
20 deployment.

21 Next, by ARB's own AB 8 report projections, in
22 2020 and 2021 there will not be enough hydrogen fueling
23 stations to support the increase of fuel cell electric
24 vehicles on California's roads. Volkswagen's settlement
25 could allow for additional station buildout in time.

1 Which leads me to my third point.

2 California can not wait until the next round of
3 VW funding. Hydrogen infrastructure needs additional
4 support now. The CHBC believes that a lack of investment
5 in hydrogen infrastructure in this funding cycle will also
6 send a signal to other states, discouraging further fuel
7 cell electric vehicle adoption and limiting price
8 reduction benefits associated with higher production
9 volumes.

10 To conclude, the CHBC very much appreciates the
11 great work and immense support from the State's agencies.
12 It is mutual goal to improve the lives of Californians and
13 provide them with the choice of zero-emission vehicle
14 options. Therefore, we strongly believe that the Board
15 should require VW to submit a revised investment plan for
16 settlement moneys to be technology agnostic, provide
17 funding to help the State meet the increasing demand of
18 fuel cell electric vehicles, and to set the right example
19 for the rest of the nation to follow.

20 Thank you.

21 MR. DANBERG: Good afternoon, Madam Chair and
22 members of the Board. My name is John Dangberg. I'm
23 assistant city manager here representing Mayor Darrell
24 Steinberg, who sends his regrets that he could not be
25 here. But he wanted me to speak on his behalf and voice

1 Sacramento's strong support for the Volkswagen Investment
2 Plan.

3 First, Sacramento is ready and has the ability to
4 deliver on this opportunity for the State and the
5 Sacramento region. This investment in Sacramento will
6 catalyze the advancement and use of ZEV technologies in a
7 manner that is rapidly scalable and transferable to other
8 areas of the State.

9 So why Sacramento? This would be a
10 transformative opportunity for the city of Sacramento and
11 our community. Sacramento is rated as one of the nation's
12 most diverse communities where people of color are the
13 majority. The CalEnviroScreen designates our
14 disadvantaged census tracts in the top 10 percent in the
15 state, and 84,000 people in Sacramento live in high
16 poverty census tracts.

17 This initiative will greatly strengthen
18 affordable clean mobility options, integrate workforce
19 development, and serve as a model for others.

20 We provide a rare opportunity to test programs
21 that can be replicated across a range of communities. And
22 as the State's capital, Sacramento is at the heart of
23 California's policymaking. Showcasing the State's capital
24 as a green city sends a strong message about the State's
25 commitment to sustainability and zero-emission vehicles.

1 Sacramento's readiness is built on our early
2 initial investments in zero-emission technologies and our
3 strong partnership with key organizations, including UC
4 Davis and other regional agency partners.

5 Among other important initiatives, work with key
6 partners resulted in our first regional EV readiness plan
7 in 2013 known as Take Charge; and a second phase is
8 currently underway.

9 While this is a good start, we are in need of a
10 concentrated investment to scale up our efforts and
11 achieve our share of statewide ZEV targets.

12 So I will conclude by saying we stand ready to
13 work with you and your staff and Volkswagen to grow the
14 market for ZEVs, test out innovative ideas that spread to
15 other areas of the State, and provide new transportation
16 options to low income residents in disadvantaged
17 communities.

18 Thank you very much.

19 MS. ROSIA-TREMONTI: Chair Nichols, members of
20 the Board. My name is Ashley Rosia-Tremonti. I'm the
21 Sustainability Manager for the city of San Diego. I
22 report directly to our city's chief sustainability
23 officer.

24 We were pleased to submit a proposal for the
25 invest -- VW investments back in January, and we are happy

1 today to submit comment on their first cycle investment
2 plan.

3 Overall we would have preferred additional
4 detailed justification and general transparency within the
5 investment plan, though we are excited to see investments
6 happening in the San Diego region. We do want to ensure
7 that Volkswagen is taking into account local existing
8 plans and that they are collaborating with local
9 governments and local organizations. This will be key to
10 the success of these individual projects.

11 Per example, San Diego regionally has an EV
12 readiness plan already designed. It was developed by the
13 San Diego Association of Governments and the Center for
14 Sustainable Energy in collaboration with various cities,
15 Caltrans, local labor, universities, the Port of San
16 Diego, and others. It is unclear from the investment plan
17 whether or not these types of plans were taken into
18 account when identifying projects.

19 Continuing on with the topic -- the important
20 topic of collaboration, I would like to call out figure 3
21 of the Investment Plan. It demonstrates the number of
22 proposals submitted by region to Volkswagen. And we would
23 like to emphasize that the number of proposals received
24 does not necessarily indicate interest or need for EV
25 investments. As we determined we would collaborate, the

1 City of San Diego reached out to outside organizations and
2 submitted a single proposal. So naturally we had fewer
3 proposals submitted to Volkswagen. But that does not
4 necessarily mean that we don't have the interest.

5 Through this proposal process, we have also
6 researched and determined that the city of San Diego
7 receives about one-third the amount of state funding on a
8 per-capita basis compared to other cities identified in
9 this investment plan, and 30 times less than the city
10 receiving the largest amount of state funding. We want to
11 take opportunities such as this one to close that gap and
12 see beneficial and wise investments made in our region.

13 Thank you.

14 MS. REYES: Good afternoon, Chair Nichols and
15 members of the Board. On behalf of Mayor Garcetti, I want
16 to thank the Board and Electrify America for the
17 presentation and their time, and also to thank Electrify
18 America for the positive recognition of L.A. in the
19 initial ZEV Investment Plan as being a region worth
20 receiving targeted investment.

21 L.A.'s Green City proposal came together as a
22 result of a coalition of organizations. We are the Green
23 City L.A. Coalition, and these members are here today --
24 some of the members, and will be expressing their support
25 and recommendations for why L.A. is ripe for the Green

1 City designation and investment.

2 I'm here on behalf of the city to urge Electrify
3 America and the Board to increase investment in L.A.

4 The Volkswagen settlement stems from a diesel
5 vehicle pollution. No one has been hit harder from diesel
6 pollution than the communities in Los Angeles. In L.A.
7 County alone it represents over half of the state's
8 disadvantaged communities according to the
9 CalEnviroScreen.

10 It says that the plan should prioritize
11 disadvantaged communities. The plan from Volkswagen
12 indicated that it's a secondary consideration.

13 Investments in cleaning our air and sustaining
14 livable and sustainable communities will not go to waste
15 in Los Angeles. Dollar for dollar, using funds for zero
16 or near-zero emissions are -- off of these projects
17 maximizes the reach of investments in transportation,
18 mobility, and infrastructure.

19 L.A. is a city that knows how to accelerate these
20 transformative programs. And we are here to help. The
21 Mayor's office in particular will be eager and excited to
22 work with Electrify America to make this happen within the
23 30-month period. We are ready. We have projects that are
24 shovel-ready for investments.

25 Simply put, we believe L.A. is ground zero for

1 the next iteration of urban mobility, technology, and
2 innovation. Investments in electrification are made --
3 you know, that are made in L.A. will be leveraged and
4 maximized in ways that are unequalled throughout the State.

5 Thank you for your time.

6 MS. NORTON: Good afternoon, Chair Nichols and
7 Board members. My name is Hilary Norton and I'm the
8 Executive Director of FAST, Fixing Angelenos Stuck in
9 Traffic, and Fast Links Downtown L.A.

10 (Laughter.)

11 MS. NORTON: Yeah, imagine my job.

12 So I'm also part of the Green City L.A.
13 Coalition. We're committed to transforming the region
14 through a partnership with Metro, the City of L.A., the
15 L.A. Cleantech Incubator, and Green Commuter through our
16 Fast Link DTLA program.

17 Our zero-emission micro-transit and van pools
18 connect to a growing ZEV transit network, encouraging
19 clean air travel and serving disadvantaged communities
20 with ZEV mobility.

21 I'm here to support L.A.'s application to be
22 selected as a Green City. As Susana said, we have over
23 half of the disadvantaged communities in California
24 region. But moreover, we have most of the impressions
25 that -- in this program and the goal to make heavy impact

1 with measurable results. We have 25 percent of the
2 state's population, 47 million tourists a year, and 7.8
3 million vehicles currently registered, larger than 45 of
4 50 states.

5 Selecting Los Angeles will positively impact both
6 mobility and health in disadvantaged communities.

7 Granting L.A. the designation of Green City will deliver
8 visible and measurable results in the first 30-month
9 rollout, showing transformational change by leveraging
10 L.A.'s existing ZEV momentum and the investment of Measure
11 M funds toward sustainable travel and improved air
12 quality.

13 As currently a plug-in EV owner, I'm excited for
14 the proliferation of charging infrastructure and ZEV
15 vehicles so that I can increase my -- reduction in my
16 carbon footprint.

17 L.A. as a Green City will be California's best
18 amplifier of the power of ZEVs, and we look forward to
19 being supported as a Green City in this round.

20 Thank you very much.

21 MR. WRIGHT: Good afternoon, CARB members. My
22 name is Jerard Wright, BizFed's Policy Manager. And
23 BizFed is a grassroots alliance of more than 160 diverse
24 business associations representing 325,000 businesses that
25 employ 3 million people in L.A. County.

1 BizFed personally is -- not -- is technically
2 technology neutral in -- in its support -- or in its
3 mission on these items. And what we want to bring to the
4 table is that we believe L.A. is well suited for investing
5 in our transportation infrastructure, because BizFed was
6 one of the key members and key supporters of Measure M,
7 because we felt we were in it to win it for our
8 environment, for our economy -- most importantly for our
9 economy, because advancement of transportation
10 infrastructure such as this would infuse our local
11 economy, improve our environment, in making L.A. County a
12 more desirable place to live, work, and grow business.

13 Thank you so very much.

14 MR. SWORDS: Good afternoon, Chair Nichols and
15 members of the Board. My name is Michael Swords and I'm
16 the Vice President of Government Relations at the Los
17 Angeles Cleantech Incubator, or LACI.

18 LACI is a nonprofit public-private partnership
19 that helps support the growth of early-stage cleantech
20 companies. We are currently supporting 44 promising
21 cleantech startups, eight of which are advanced
22 transportation companies.

23 I am here as a member of the Green City L.A.
24 Coalition to express LACI's strong support for Los Angeles
25 to be selected as one of the two Green Cities under the

1 Volkswagen settlements.

2 Los Angeles has made tremendous progress in
3 cleaning its air over the last few decades. However, we
4 still have a lot of work to do. One only needs to take a
5 short drive on our congested freeways to see that the
6 challenge is still significant.

7 The city has rightfully made the electrification
8 of its fleets a priority. The city has also done a great
9 deal to educate the public about the benefits of the
10 electrification of transportation and has created several
11 programs designed to accelerate the rollout of electric
12 transport.

13 VW's investment could be truly transformational.
14 VW's investment could help us transform that challenge by
15 getting people out of single-car ridership and into
16 ride-sharing and car-sharing options, especially in
17 disadvantaged communities.

18 The city of L.A. owns and operates its own
19 airport, port, and utility, allowing the city to move
20 faster in accelerating VW's ZEV investment.

21 The city also has shown significant commitment
22 and leadership in sustainability and has champions at all
23 levels of government, willing and eager to work with VW to
24 accomplish the ZEV infrastructure and vehicle deployments.

25 For all these reasons, we urge you to include

1 L.A. as one of the first two Green Cities as part of this
2 round of ZEV investment.

3 Thank you.

4 MS. ANDERSON: Good -- I almost said good
5 morning.

6 Good afternoon, Madam Chair and members of the
7 Board. I appreciate -- my name is Marco Anderson. I'm
8 with Southern California Association of Governments. And
9 I'm here today to express support for the city of Los
10 Angeles being selected as one of two Green Cities in the
11 State.

12 I think it's important to note a number of people
13 have already stressed the strengths of Los Angeles as a
14 city. And also I'd like to add the growth of Los Angeles
15 as a regional partner. I don't think seven years ago I
16 would have been authorized by my leadership to come here
17 and advocate for one city over another city. But as we've
18 seen, the region has grown to understand that investments
19 in Los Angeles benefit the region and as well as the
20 diffusion of technology.

21 I think the Green Cities category is about more
22 than just putting charging stations in the ground. So
23 SCAG very much appreciates the investment in the growth of
24 infrastructure, which will allow us to meet our regional
25 GHG reduction targets as well as ARB's vehicle mandate

1 targets. However, the Green Cities is about the full
2 transformation of the entire mobility ecosystem.

3 SCAG had looked extensively at vehicle
4 electrification and also about the revolution that's
5 taking place in car sharing and the future of automated
6 vehicles. If we are to ensure that automated vehicles and
7 car sharing and robo-taxis, whatever form they take, are
8 electrified, it'll require an infrastructure and it will
9 require data and technology that adapts to that
10 infrastructure.

11 The other thing I'd like to highlight is people
12 have mentioned the fact that Los Angeles has its own
13 utility and port. It also is a transit operator and it
14 also owns the curb space that Metro relies on. Adding all
15 those things together, the last thing I'd like to
16 highlight is the city agencies such as LADOT and the
17 LADWP, they've been at the table. Across the state
18 agencies programs are asking for collaboration for team
19 building. There's only so many times you can marshal
20 those teams and come in second. But we keep doing it with
21 federal grants, with statewide grants. And we're hoping
22 to be successful in having a source of funding that that
23 coalition can use to sustain itself.

24 So thank you very much for your consideration.

25 CHAIR NICHOLS: It's Bill Magavern. That's you.

1 MR. MAGAVERN: Thank you. Bill Magavern with the
2 Coalition for Clean Air.

3 I've been very impressed with ARB's response to
4 Volkswagen's criminal conspiracy. You caught them. You
5 enforced against them. You negotiated a favorable
6 settlement. And I think that the way that you're going to
7 choose to invest the resulting funds will probably follow
8 the same kind of success.

9 I also saw -- in the last couple weeks saw Ellen
10 Peter testify to two different legislative hearings on
11 this issue, and she did a superb job both times.

12 If Volkswagen's recovery from its self-inflicted
13 wounds would be to transform itself from a diesel car
14 company into an electric car company, I think that would
15 be an excellent result.

16 As we look to how they invest these funds, I want
17 to emphasize the importance of investing in disadvantaged
18 communities. I hope that they will exceed the levels that
19 are in your guidance document.

20 We came together three years ago with a number of
21 allies to start the Charge Ahead California campaign and
22 worked with Senate President Pro Tem de Leon on
23 legislation which has the goal of giving access to the
24 cleanest vehicles to those in the most disadvantaged
25 communities. So we think this source of funds is another

1 additional way to augment that; and not only when it comes
2 to light duty but also to get some of the cleanest
3 heavy-duty vehicles into those communities.

4 And in addition, we agree with those who have
5 said that we think hydrogen fuel cell infrastructure
6 should also be included in the funding.

7 Thank you.

8 MS. KINMAN: Good afternoon. I'm Michelle Kinman
9 with Environment California Research & Policy Center, a
10 statewide environmental organization based in Los Angeles.

11 I haven't had the opportunity to review the
12 proposals submitted by other cities, but I did want to
13 express my support for the strength of the proposal
14 submitted by Los Angeles.

15 As we all know, L.A. consistently ranks as having
16 the worst air quality in the nation. And as we all know,
17 L.A. is an incredibly important market for vehicle
18 electrification with a large consumer market.

19 The city is also the first major city to have an
20 electric vehicle car-share pilot in disadvantaged
21 communities. And I've had the opportunity to work with
22 the city firsthand on the development of this pilot
23 program and I'm greatly impressed by the mayor and the
24 city's demonstrated leadership and commitment to an
25 electrified future.

1 The city worked with a diverse stakeholder group
2 to develop their Green City proposal, resulting in a
3 transformative proposal that would concentrate investment
4 on shovel-ready projects in communities that need it most:
5 Downtown, South L.A., Boyle Heights, Wilmington, Pacoima,
6 and LAX. These areas are some of the most
7 disproportionately impacted by vehicular pollution and
8 could benefit tremendously from ZEV investments.

9 For all of these reasons we strongly support
10 L.A.'s application to be selected as a Green City under
11 the Volkswagen settlement.

12 Thank you.

13 MR. TEEBAY: Good afternoon, members of the
14 Board. Thank you for allowing me to speak. My name is
15 Richard Teebay. I am employed by the County of Los
16 Angeles. I have worked with members of your staff for
17 almost two decades, and my experience, they have been
18 committed, dedicated, helpful, and open.

19 Last August I spoke with some of you at the
20 Cleantech Incubator in downtown Los Angeles. I was
21 advocating for EV infrastructure for disadvantaged
22 communities. And I was politely told that ARB doesn't
23 fund EV infrastructure. As of today, you certainly
24 influence the funding of the EV infrastructure.

25 It's appropriate that you're in Riverside. It

1 serves as a dramatic backdrop for the work that you've
2 done at this meeting. This region of six counties within
3 SCAG are home to 18 million of the State's population,
4 almost half. The region consistently has the worst air
5 quality in the nation, not just the State. There's a
6 significant and obvious need for accelerating the
7 transition to zero-emission vehicles.

8 The city -- or the county supports the city's
9 application to be the clean city. Think of the world
10 stage for a moment. Think about the Super Bowl in 2019.
11 Think about the Olympics in 2024. You have a really
12 wonderful opportunity to showcase what a zero-emission
13 future looks like.

14 I'd also like to remind you that in L.A. County
15 alone there were 7.8 million registered vehicles in 2015.
16 That's more vehicles than there are people in the Bay
17 Area.

18 We are a strong advocate for infrastructure in
19 this region, especially in our disadvantaged communities.

20 One quick thought, and then I'll shut up, is
21 this has been totally silent about fleet. And I would
22 love to have a question asked about the fleets and the
23 impact that they can have. I've studied two fleets, the
24 County's and Metro's, And I can speak to that.

25 CHAIR NICHOLS: So just to be clear. Electrify

1 America will be testifying. They're the last on the
2 entire list. And we're gathering questions. I'm sure
3 we'll have many questions for them.

4 MR. TEEBAY: That's fine. Thank you.

5 MR. CAZERAS: Good afternoon, Board members. My
6 name is Fernando Cazerias and I'm the California manager
7 for Climate Smart-Cities at the Trust for Public Land.
8 I'm here to express our strong support for our Climate
9 Smart-Cities partner, the City of L.A., to be selected as
10 a Green City.

11 I'm also a member of the Green L.A. Coalition.
12 While we believe as an organization that part forests and
13 natural lands are important to climate mitigation and
14 resilience. We also know that Transportation is a latter
15 source of greenhouse gases and air pollution in L.A. As a
16 native Angeleno, I also believe that L.A. is on right path
17 to overcome our transportation, air quality, and land-use
18 challenges. But I believe that we need L.A. and the
19 region to resist transformation much quicker.

20 Heat waves are expected to significantly increase
21 in the L.A. Basin, significantly worsening the
22 ground-level ozone and air pollution that already caused
23 too many asthma attacks.

24 Volkswagen's investment presents a unique
25 opportunity to make transformative change in three ways:

1 Helping Angelenos with limited resources get out
2 of car ownership and into ride sharing and car sharing is
3 transformative in its own way.

4 Converting gasoline and diesel vehicles into ZEVs
5 and building out the necessary infrastructure to support
6 those vehicles, and accelerating ZEV freight investment is
7 an area that we believe will achieve Volkswag -- will
8 enable Volkswagen and CARB to achieve the most impact for
9 the funding.

10 I also want to make a note not to get into the
11 weeds, but being in California, I really encourage you to
12 think about this multilingual education and awareness
13 campaign that Volkswagen is able to do, that we make sure
14 that it's culturally and linguistically appropriate. We
15 do have many languages in California.

16 So for these and many other reasons, I urge you
17 to select L.A. as one of the first Green Cities this first
18 round.

19 Muchas Gracias.

20 MS. OHLAND: Good evening, members of the Air
21 Resources Board. My name is Gloria Ohland and I work for
22 Move L.A., and we care deeply about sustainable
23 transportation. I know some of you know our Executive
24 Director, Denny Zane. And we're a very big, broad
25 coalition of civic leaders who were the impetus behind the

1 Measure R Transportation and Sales Tax measure in 2008.
2 And the Measure M Transportation and Sales Tax won 72
3 percent of the vote last November.

4 And I'm here as a member of the Green City L.A.
5 Coalition to urge you to invest that VW settlement money
6 in L.A.

7 Move L.A. is on a steering committee of L.A.'s
8 brand new low income EV car-share project that's opening
9 for business in two to three months; and we've begun
10 outreach in neighborhoods to drum up interest. And I was
11 at one of the meetings on Wednesday night and I was
12 sitting next to a woman who had been playing around with
13 CalEnviroScreen 3.0. And she had found some numbers that
14 made a very compelling case for why disadvantaged
15 neighborhoods in the pilot project area of our car share
16 need EV car sharing. In her neighborhood, for example,
17 the pollution burden was very high, at 92 percent, which
18 my understanding is that means that only 8 percent of all
19 the census tracts in California have more pollution than
20 her neighborhood.

21 The diesel index was 98 percent. The PM2.5 index
22 was 80 percent. And the neighborhood is very poor. 96
23 percent of households are considered housing burdened.

24 And I don't really know that much about air
25 pollution. But I do know that diesel is a toxic

1 contaminant, it contributes to NOx, and it sticks to
2 particulate matter which gets lodged in people's lungs and
3 it's probably second only to cigarettes as cause of
4 cancer.

5 And there are a lot of kids in that neighborhood
6 and there's a big community college.

7 And I know that diesel messes with low income
8 people who live near freeways and heavily traveled
9 transportation corridors with lots of truck traffic. And
10 that's almost all of L.A.'s neighborhoods.

11 So we at the Green City Coalition believe this is
12 exactly the environment that you should invest the VW
13 settlement money in.

14 CHAIR NICHOLS: Understood. Thank you.

15 It's not our money to invest though. Just again,
16 to be clear, we're not investing it. It's their money.

17 MS. OHLAND: Oh. I wish you were.

18 CHAIR NICHOLS: Sorry.

19 Okay. Please, you're done.

20 MS. OHLAND: Okay. Well,

21 CHAIR NICHOLS: Other people are waiting.

22 MS. OHLAND: The only thing I was going to say is
23 we're shovel ready in L.A. with our low-income EV
24 car-sharing --

25 CHAIR NICHOLS: Move L.A. is a great

1 organization, and we appreciate your work. Thank you.

2 MS. BARBERENA: Good afternoon, Chair Nichols and
3 members of the Board. My name is Betty Barberena and I am
4 the outreach manager for the Electric Vehicle Car-share
5 Program coming soon to Los Angeles.

6 As part of the steering committee comprised of
7 community-based organizations, SALEF, KIWA, TRUST, and
8 South L.A., we are working along with the city and Blue
9 L.A. to make sure that this innovative program benefits
10 disadvantaged communities highly affected by
11 transportation-related pollution.

12 L.A.'s vehicular pollution comes from two primary
13 factors. The fact that L.A. is the largest vehicle market
14 in the State; and our port, which is the largest in the
15 U.S. VW ZEV Investment presents the unique opportunity to
16 address these primary factors by helping people get out of
17 their single car ridership and into ride share and car
18 share, especially in disadvantaged communities.

19 The car-share program we are getting ready to
20 implement will provide low income residents of Westlake,
21 Pico-Union, Echo Park, Downtown L.A., and parts of Korea
22 Town with access to clean and reliable transportation
23 because the vehicle fleet will be 100 percent electric
24 with publicly available infrastructure.

25 The community forums we held recently showed how

1 ready these communities are for ZEVs and the corresponding
2 infrastructure, and to get rid of their diesel vehicles.

3 Selecting L.A. as one of the first Green Cities
4 will allow VW to maximize its impact by leveraging
5 hundreds of millions in both public and private funding to
6 mitigate diesel emissions in communities that need it the
7 most, to accelerate deployment of ZEVs and the required
8 infrastructure.

9 So as part of a Green City L.A. Coalition, I urge
10 you to include Los Angeles as a Green City as part of a
11 first round of ZEV investments to achieve maximum impact
12 for transportation electrification and emissions
13 reductions.

14 Thank you.

15 CHAIR NICHOLS: Thank you.

16 MS. HALLS: Good afternoon, Chair Nichols and
17 members of the Board. My name is Cassie Halls and I'm a
18 project associate at the Shared-Use Mobility Center, a
19 technical advisor to the L.A. Department of
20 Transportation. I'm representing the Green City L.A.
21 Coalition.

22 Volkswagen's ZEV Investment Plan represents an
23 unparalleled opportunity to foster growth of Clean
24 Transit, EV Car Share, and other shared mobility programs.
25 If disadvantaged communities are to be put front and

1 center, it is critical that these programs should be put
2 front and center as well.

3 Investments in EV and shared mobility go a long
4 way. Each car in an EV car-share program is rented six to
5 seven times per day, maximizing investments in EV
6 infrastructure for the greatest public benefit. It is
7 modeled that one EV car-share car can take 9 to 13 carbon
8 emitting diesel and gasoline cars off the road. Our
9 groundbreaking EV car-share pilot program funded by your
10 agency is now under construction and will launch later
11 this year in L.A.

12 This program will serve over 7,000 households,
13 over half of which are low income. Volkswagen funding
14 could help scale this program and others like it 10 to 20
15 times the current size over the next 10 years, maximizing
16 its impact on improving air quality and filling critical
17 mobility gaps in Los Angeles's poorest and most polluted
18 communities.

19 Our share and mobility action plan for L.A.
20 County calls for growing EV car share to 2,000 vehicles,
21 which could serve over a hundred thousand Angelenos and
22 could help reach our goal of taking a hundred thousand
23 cars off the road.

24 Los Angeles has made rapid strides around a wide
25 range of public-private investments in shared mobility

1 that have gained national attention.

2 In addition to the EV car share program, four
3 cities of Los Angeles have launched bike share programs in
4 the last year, and both the city of L.A. and L.A. Metro
5 are planning micro-transit --

6 CHAIR NICHOLS: Okay. Thank you. Not taking a
7 breath does not extend your time. --

8 (Laughter.)

9 MS. HALLS: Can I just say one last thing?

10 Yeah. I just wanted to say that Los Angeles is
11 the place to look, and we know how to invest in
12 disadvantaged communities.

13 CHAIR NICHOLS: Yes, you do.

14 MS. HALLS: Thank you for your time.

15 CHAIR NICHOLS: All right. And you know
16 something. I just have to say, because I'm a resident of
17 Los Angeles and I love Los Angeles. If the issue was who
18 had organized, you know, the most people to make a pitch,
19 you guys would already have won. Okay.

20 So just know that. You're doing a great job and
21 you're doing a lot of good work. So this is all good, and
22 I think it will not be a waste no matter what happens.

23 MR. CORTES: Chair Nichols, Board members, thank
24 you so much for allowing me to address you this afternoon.
25 My name is Carlos Cortes. I'm director of engineering at

1 Broadband TelCom Power. We are an AC and DC fast charger
2 manufacturer located in Orange County. We build mostly DC
3 fast chargers. We have roughly 500 DC fast chargers
4 nationwide.

5 I wanted to come in in support -- in strong
6 support of the Volkswagen ZEV Investment Plan, for a lot
7 of reasons. The first one is, every single DC fast
8 charger we have in the state of California is being
9 heavily used. That's item number 1.

10 We do have a lot of good reasons why we want to
11 install additional DC fast chargers. The first one is
12 because it's really a drop in the bucket as far as the ZEV
13 investment plan. We need so much infrastructure for the
14 one million vehicles that are mandated to be out on the
15 road, that the \$800 million investment is really a drop in
16 the bucket as far as what we need for infrastructure. And
17 we can see it in the number of transactions that we get on
18 a per-charger basis in the state of California. So that's
19 number 1.

20 Number 2. We see that the ZEV Investment Plan is
21 really inclusive of a lot of different parties and a lot
22 of different systems, and we do see it as being a system
23 that can actually be utilized in underserved communities.
24 Okay?

25 And then last, and I think the critical point in

1 this whole thing is, we really have truly a
2 chicken-and-egg situation. In order to get more cars out
3 on the road, we need charging systems out on the road.
4 Right? But what we do know because we have the experience
5 in actually installing DC fast chargers, we do know that
6 DC fast chargers by themselves to date don't financially
7 pay for themselves. They don't. So we need government
8 intervention. We do need your help to push forward the
9 investment into electric vehicle charging infrastructure
10 and network so that we can get the electric vehicles out
11 on the road.

12 Thank you so much.

13 CHAIR NICHOLS: Thank you.

14 MR. ZHENG: Good afternoon, Chair Nichols and
15 Board members. Thank you for the opportunity to make a
16 statement at this hearing. My name is Kevin Zheng and I
17 work for SemaConnect.

18 SemaConnect is a leader in developing,
19 manufacturing, and delivering network EV charging
20 solutions for commercial properties in North America.

21 SemaConnect's statement is as follows:

22 The Volkswagen settlement decree represents a
23 unique opportunity to accelerate the EV market in
24 California. Expanding this market would create jobs and a
25 new economic opportunity, help California achieve its

1 climate mitigation goals, and protect the health of
2 disadvantaged communities who face the worst effects of
3 tailpipe pollution. With that as context, SemaConnect
4 strongly supports Volkswagen's first California ZEV
5 Investment Plan. We feel it successfully meets the goals
6 of the settlement decree. We urge CARB to approve the
7 plan as soon as possible.

8 Also we are concerned that the full perspective
9 of the EV charging industry has not been well communicated
10 to the policymakers and other stakeholders so far on this
11 issue.

12 Our company and our EV industry partners are
13 committed to competition and understand how the Volkswagen
14 California ZEV Investment Plan as it is currently written
15 will be beneficial to the public and the industry.

16 As you know, Appendix C of the settlement decree
17 establishes a California ZEV investment plan which
18 requires Volkswagen to invest 800 million in California
19 over the next 10 years.

20 We applaud CARB for securing this requirement as
21 part of the settlement agreement. Along with the rest of
22 the settlement, we believe that Appendix C is an effective
23 mechanism for achieving important public benefits
24 including increasing the rate of adoption of EV cars.

25 California has always been the global leader in

1 moving automotive market towards a cleaner, more efficient
2 future.

3 CHAIR NICHOLS: Thank you. Your time is up.

4 MR. ZHENG: Thank you. Thank you much.

5 MS. ALI: Good afternoon, Chair Nichols and
6 members of the Board. My name is Fariya Ali and I'm
7 speaking on behalf of Pacific Gas & Electric, the PG&E in
8 California.

9 We would also like to congratulate the ARB
10 engineers on staff for their important role in actions
11 taken to enforce emission standards.

12 PG&E supports the increase in electric vehicle
13 infrastructure that the Volkswagen Zero-emissions Vehicle
14 Investment Plan represents and we encourage expediency in
15 approval to allow for a quick start to implementation.

16 The path to achieve the State's air quality and
17 climate goals will require a major increase in electric
18 vehicle adoption. We believe that some of the proposals
19 in the ZEV Investment Plan will complement actions being
20 taken by PG&E and other utilities to advance the State's
21 EV infrastructure to support this objective.

22 Another opportunity will be to use greenhouse gas
23 reduction funds for EV and infrastructure incentives in
24 disadvantaged communities.

25 PG&E's recently approved \$130 million EV Charge

1 Network Program is one of the largest single deployments
2 of EV charging infrastructure in the world. And we
3 recently proposed an additional \$250 million to support
4 the deployment of DC fast chargers and non-light-duty
5 electric vehicle charging infrastructure.

6 Even with these investments, much more is needed
7 to meet the Governor's goal of developing EV
8 infrastructure to support one million vehicles by 2020,
9 and we hope to see more action to support this goal soon.

10 Thank you.

11 DR. REICHMUTH: Chair Nichols and members of the
12 Board. Good afternoon. My name is Dave Reichmuth. I'm
13 speaking on behalf of the Union of Concerned Scientists.

14 The VW cheating scandal is unprecedented, and
15 this settlement is critical to repair the damages done.

16 I'd like to thank the Board and VW for moving
17 this process forward quickly. We don't want to rush in
18 making these investments, but we definitely want to move
19 expeditiously. These investments need to go forward as
20 soon as possible.

21 We're still reviewing the document and we'll
22 submit written comments later. But we do agree with the
23 comments that were made in terms of the need for hydrogen
24 infrastructure, especially to achieve the brand neutral
25 ZEV infrastructure requirement of the settlement.

1 We also agree with the initial focus on DC fast
2 charging in corridors and multi-use dwellings. It makes
3 sense. But we need to make sure that we're actually
4 serving disadvantaged communities with those investments,
5 to make sure they're in the right places.

6 We'd also want to make sure that these
7 investments coordinate with other actors in this area,
8 especially utilities and charging providers. This
9 investment needs to be complementary to what else is going
10 on in the State. It's a large amount of money, but it's
11 only a fraction of what needs to be invested in terms of
12 the private and public funds. So we want to make sure
13 that this doesn't duplicate or inhibit other programs that
14 are already ongoing.

15 Thank you.

16 CHAIR NICHOLS: Thank you. We agree.

17 MR. SULLIVAN: Good afternoon, Chair Nichols and
18 Board. My name's Joseph Sullivan. I work for the
19 International Brotherhood of Electrical Workers in the
20 National Electrical contractors Association. And than you
21 for the opportunity to comment.

22 Volkswagen's investment represents a substantial
23 opportunity to support California's climate goals, benefit
24 our hardest-hit communities, and create good middle class
25 jobs.

1 Unfortunately the Cycle 1 Investment Plan fails
2 to optimize this opportunity fully. There's no
3 description of how the investment in EV infrastructure
4 will create pathways into skilled training in middle-class
5 careers, by leveraging the State's joint labor management
6 electrical apprenticeship network, by creating
7 family-sustaining jobs with good wages and benefits, by
8 hiring workforce from disadvantaged communities, low
9 income households of veterans. We can either use this
10 money for this infrastructure build-out to create
11 temporary jobs or we can create life-long careers with
12 training and family-sustaining wages.

13 Lastly, the plan doesn't outline how Electrify
14 America will ensure that the ZEV infrastructure will be
15 installed and maintained by qualified electrical personnel
16 and contractors in accordance with State law and industry
17 best practice.

18 Thank you.

19 CHAIR NICHOLS: Again, just to be raising the
20 issue here. There is no prohibition in terms of using
21 money over many of these projects towards training of
22 people who would be doing the work on them, as far as I
23 can tell anyway.

24 CHIEF COUNSEL PETER: Not that I can recall.

25 CHAIR NICHOLS: Yeah. I think it's an important

1 point though, that the opportunity goes beyond just an
2 investment in hardware or even in jobs but in really
3 multiplication if it's done well.

4 Thank you.

5 MR. SHEARS: Good afternoon. John Shears with
6 the Center for Energy Efficiency and Renewable
7 Technologies.

8 First thing I'd like to share the observation
9 that I think that you've spoiled us, CARB, and the way
10 CARB normally workshops processes. Because I do have a
11 complaint in terms of how top down and relatively opaque
12 the development process has been around these
13 investment -- this investment plan.

14 And I hope that going forward for the next round
15 we can maybe figure out how to work with Volkswagen to
16 make that a much more transparent process.

17 What I'd like to recommend in the interim is that
18 there's at least one more, if not two more, public
19 workshops. But given the timeline, we're probably looking
20 at one to air things out more. Because I'm sure all the
21 stakeholders who would want to participate so that we
22 could have a more free back and forth -- or were available
23 in the Senate oversight hearing that Ellen did a masterful
24 job at, that you couldn't watch it live.

25 So just wanted to share that observation.

1 Also disappointed -- or we're disappointed
2 about -- over hydrogen and the lack of mention in there.

3 I want to also point that work -- I work with
4 Peter Cooper at the employment training panel on the
5 employment issue. A letter was submitted, was also shared
6 with CARB staff that we need to incorporate that in as the
7 market grows because we need to have workers who can
8 facili -- work on the vehicles and the infrastructure
9 going forward, and that's got to keep pace.

10 And then, finally, I work in the Central Valley.
11 The major metropolitan areas are not the only areas that
12 have disadvantaged communities. And the most challenging
13 environment from my take because of the capacity issues
14 that are lacking in the Central Valley is that that's --
15 that's a real concern. And what I see in this investment
16 plan is it's sort of like, you know, fly over country in
17 terms of how people talk about nationally. I see the
18 valley. And what I see in this investment plan is
19 drive-through or drive-by country.

20 So if we could deal with that, that would be
21 great.

22 CHAIR NICHOLS: Thank you.

23 MR. MUI: Simon Mui, NRDC. First, thank you to
24 your staff and all of you for bringing light to what has
25 been a dark chapter in the auto industry in terms of the

1 scandal here.

2 We did want to reinforce that we like what you're
3 doing in terms of making sure that the VW investments are
4 complementary and additional to what utilities are going
5 to do. We want to see $1 + 1 = 2$ and not $1 + 1 = 1.5$.

6 And we think you are doing a good job and want to
7 encourage ARB to continue doing that to make sure that
8 those investments are complementary to what charging
9 service providers as well as utilities are doing.

10 Finally, we want to thank you as well for
11 California's role in this -- in uncovering the VW scandal
12 and really putting California in a much better place
13 versus other states. We work in those other states and
14 they are very envious of the special treatment California
15 enjoys under the consent decree terms. We're only about
16 12 percent of the U.S. market, but the consent decree
17 carves out 40 percent of the Appendix C funds for
18 California. No other state has that kind of certainty.
19 They're all clamoring for VW to come to them.

20 In sum, this is a good deal for California.

21 We do think that ARB should make sure to exercise
22 its oversight on VW's investment plan to ensure they're
23 consistent with the guidance ARB has provided in the terms
24 of the consent decree. And this is very critical, because
25 many are asking for changes. And we just want to make

1 sure that you're careful to avoid asking for modifications
2 to the proposal that could reopen this and require the
3 parties to go back to the judge, resulting in potentially
4 many years of delay in opening up this deal.

5 So in sum, thank you. We like this deal. And we
6 want to prevent it from going back to the Feds.

7 MR. WHEATLEY: Chair Nichols, members and staff.
8 Thank you very much for this opportunity, and thank you
9 for everything that you do to make California this
10 wonderful leader in terms of making the world a better
11 place to live in.

12 I am predictably going to harp on about the fact
13 that we need to be using renewable energy as the primary
14 source for our considerations around ZEV infrastructure,
15 not as an afterthought as it so often is.

16 There is a commercially available and in use
17 today transportable solar-powered electric vehicle
18 charging station which requires no trenching, no
19 foundations, and it is deployed in less than 12 minutes
20 instead of less than 12 months. It was mentioned earlier
21 by Supervisor Serna and by Dr. Sherriffs. Thank you for
22 that.

23 And you yourself, Chair Nichols, have had the joy
24 of driving on sunshine after charging your own electric
25 vehicle on one of these products. Products which, by the

1 way, was also delivering emergency energy to the city of
2 Los Angeles in the event of a disaster. So that was a
3 wonderful dual use there. Manufactured in California by a
4 team of combat veterans and very worthy of this program.

5 Now, I arrived here this morning in a pretty
6 filthy mood. In fact, I was imagining all sorts of
7 horrible scenes from Braveheart. Not the romantic ones.
8 And that was because yesterday I received an email which
9 led me to believe that Volkswagen was not intending to use
10 solar in any of their deployments of electric vehicle
11 charging infrastructure.

12 However, I met with representatives of Electrify
13 America this morning, and they assured me that that's not
14 the case and I was wrong. And unlike William Wallace, I'm
15 prepared to admit it when I'm wrong. So delighted to see
16 that it isn't the case and that we are going to be doing
17 that.

18 What I would like to see happen is that
19 everything is done to encourage the use of renewable
20 energy, both in this program and anywhere else. And
21 specifically that nothing exists in the language or within
22 the creditable expenses or any of the other parts of the
23 program which might prevent it or discourage it. So
24 please help Electrify America and help everybody else to
25 make sure that we can drive on sunshine because that is,

1 after all, the ultimate promise of this technology.

2 Thank you.

3 MS. TUTT: Good evening, Chair, Vice Chair,
4 members of the Board.

5 CHAIR NICHOLS: It's still afternoon.

6 MS. TUTT: No, after 5:00 I think that's evening.

7 So I'm Eileen Tutt with the California Electric
8 Transportation Coalition. We've been around for decades
9 in support of electrifying everything.

10 (Laughter.)

11 MS. TUTT: So I do -- you have a handout,
12 hopefully, from the clerk. I just want to say that the
13 handout -- I'm not going to go through it -- it's quite
14 lovely though. I encourage you to read it. But it does
15 show that we -- that our assessment agrees with the CARB
16 staff assessment that the need for charging in this
17 State -- and our assessment was only up to a million
18 vehicles, which by the way is nowhere near where we need
19 to be. So even just getting to a million vehicles, we are
20 woefully underfunded in infrastructure. And we agree, VW
21 and, I would say, NRG together is less 10 percent of the
22 need in California just to make the one million vehicle
23 mark, which is far short of where we need to be.

24 I also want to say that I'm really excited to see
25 the outreach and education component in the Electrify

1 America. We keep talking about infrastructure, but that
2 is really, really important. I think that -- I'm really
3 looking forward to seeing what they do.

4 We're not going to pick a city for Green City.
5 But I did like what they were doing in terms of last mile
6 delivery, shared mobility and taxis. We think it's very
7 important to expedite the -- getting this money out. We
8 don't want to see another NRG.

9 And then, finally, on Appendix D - I know that's
10 not the topic - but we do want to see electrification of
11 the medium- and heavy-duty vehicle sector with that money.
12 So hope -- you'll consider that one when you're looking at
13 how to spend it.

14 Thank you.

15 CHAIR NICHOLS: Thank you.

16 MR. ASHLEY: I'll say good afternoon, Chair
17 Nichols and members of the Board.

18 CHAIR NICHOLS: I wasn't ready to face up to it.

19 (Laughter.)

20 MR. ASHLEY: So I'm Tom Ashley. I'm Senior
21 Director of Government Affairs and Public Policy with
22 Greenlots. Greenlots is a leading provider of smart and
23 electric vehicle charging software and services,
24 headquartered in the great city of Los Angeles.

25 I wish to just really emphasize to members of the

1 Board how much of an infrastructure deficit we have in
2 this State, and really in all communities and all
3 geographies across the State. I just cannot emphasize
4 enough how far behind we are and therefore how important,
5 you know, every dollar of investment is in the space, very
6 much including the proposed ZEV Investment.

7 And like many of other voices from the industry
8 that you heard before me, we really feel that we're at a
9 stage of the market where what we need to be striving for
10 more than almost anything else is to scale up where we are
11 in the market and provide opportunities across the market
12 for companies like my own and all types of different
13 communities and drivers. We very much look forward to the
14 Board's approval of the ZEV Investment Plan.

15 Thank you.

16 CHAIR NICHOLS: Mary Kathryn is next -- Mary
17 Kathryn Campbell and then Anne Smart.

18 If she's not here, then it's you, Anne.

19 Hi. Welcome back.

20 I'm going to save you at least a few seconds,
21 each one of you, by having you not introduce yourself
22 because -- or say good afternoon or good evening, because
23 we already know that. Just plunge right in.

24 MS. SMART: Thanks. Well, I'm sure you're all
25 happy to see me up here again on this topic.

1 But there's really only one issue that I would
2 like to discuss today, and that's making sure that the
3 rising VW tide lifts all California's boats.

4 It is difficult to sell a charging station in the
5 city that doesn't already have EVs on the roads or in
6 their local dealerships, and when a local driver's image
7 of a new EV is a car in an affluent suburb and not in
8 their own driveway.

9 The unprecedented \$800 million could help
10 underserved communities in California reap the benefits of
11 EVs and help drive demand for automakers across the state.
12 But unfortunately, as written, VW's proposal ignores this
13 opportunity. Instead this is a business plan allowing the
14 largest automaker in the world to inject itself in
15 California's EV charging market and profit from its
16 wrongdoing.

17 Look at where VW's plan investments are going:
18 San Francisco, San Jose, Los Angeles, Sacramento, and San
19 Diego. And which are California's strongest EV markets
20 right now: San Francisco, San Jose, Los Angeles, and San
21 Diego. Where's Fresno in this plan? Where's Stockton,
22 Modesto? Where are those communities that really need ZEV
23 integration in their communities the most?

24 One of the biggest innovations in EVs is how they
25 can integrate into our community and provide benefits for

1 drivers and site owners alike. EV infrastructure is the
2 most helpful to the most people in the communities
3 themselves, not just as an off-ramp or on-ramp on a
4 highway.

5 So these highway corridors for those residents,
6 are they for the residents that live there or are they for
7 drivers just passing through on their way to the beach or
8 Tahoe? We really need to make sure that these stations
9 also per -- charge all EVs and not just the most expensive
10 models.

11 I ask that you please reject the proposal before
12 you and instead ask VW to follow its own guidance and the
13 guidance that you have before you to invest in
14 disadvantaged communities and offer grants or rebates to
15 site hosts to let them choose, not VW, the equipment that
16 they want, the business models they want, and the
17 technology they need to grow us well beyond the limited 10
18 percent that you are suggesting this market will be.

19 Thank you for your time.

20 MS. GALE: I'd like to thank Anne for her
21 comments.

22 I'll save the niceties. Central Valley Air
23 Quality Coalition.

24 I'd like to speak today about specifically where
25 this investment is being made in the State. Our biggest

1 concern is that the plan does not prioritize disadvantaged
2 communities. This Board had urged VW to dedicate a
3 significant percentage of the funds, at least 35 percent,
4 to disadvantaged, low income, and disproportionately
5 impacted communities. However, this plan does not make
6 that commitment.

7 For instance, in the San Joaquin Valley, chargers
8 are only placed alongside the highways, ignoring the
9 opportunity to invest directly into our communities.

10 Ms. Holmes-Gen from American Lung spoke earlier
11 today about the health benefits of zero-emission vehicles.
12 ZEVs save lives. So it only makes sense that we're
13 investing in the communities that need it most. And as
14 some have already said, this plan treats a lot of the
15 valley cities like drive-by communities.

16 In addition, the plan also anticipates the launch
17 of the Green City initiative to be Sacramento. And I
18 personally love the city of Sacramento. It's wonderful.
19 But we all know that that is not where the need is.

20 And I was going to launch into all the statistics
21 on why -- on how the valley is the most -- has the most
22 polluted cities in the nation and has the most
23 disadvantaged communities in the State. But I know this
24 Board knows all of those statistics and knows the need
25 that we have.

1 So in conclusion, I suggest that this Board
2 mandates a 35 percent commitment of the 45 million for EV
3 chargers to be located in disadvantaged communities. And
4 I also ask CARB to reevaluate the Green City proposals. I
5 know that the plan says that the next Green City will be
6 in a disadvantaged community. But I would hate for that
7 to be an either/or of Bakersfield and Los Angeles or
8 neither.

9 So I'd really -- I think it's important for ARB
10 not to pass up the opportunity to be investing in the
11 communities that need it most.

12 Thank you.

13 And I'd also like to say that I'd love if there
14 were 5, 10, 15 of me here today. But know that I
15 represent the 4 million people who suffer from poor air
16 quality.

17 Thank you.

18 CHAIR NICHOLS: Could we please have whoever is
19 doing the timer restart the timer. I don't know what
20 happened. But you need to change it so that Mr. Whiteman
21 gets his full time.

22 Very good.

23 MR. WHITEMAN: Shortly after the financial
24 details of Appendix C were announced late last year,
25 rather than stepping back and allowing this funding to

1 take our place, Tesla doubled down on its infrastructure
2 investments announcing a 100 percent increase in the
3 number of superchargers between end of year 2016 and end
4 of year 2017 in order to support the rollout of the Model
5 3, our \$35,000 sedan to be built in Fremont and due on the
6 market later this year.

7 The value and need for EV infrastructure to
8 support long distance travel can not be overstated.
9 Several scientific and many more nonscientific poles point
10 to the supercharger network as a major reason consumers
11 choose to purchase a Tesla. As the EV market moves from
12 early adopters to mainstream consumers, the need for
13 pervasive and accessible charging stations will continue
14 to grow.

15 The proposed California Investment Plan offers a
16 robust path forward, bringing EV infrastructure to drivers
17 where they are and taking them where they want to go.

18 DC fast charging is important for long distance
19 travel and combined with level 2 workplace and community
20 focused DC charging as outlined in the plan, EV adoption
21 can become a reality for those lacking off-street parking
22 or who are transient renters.

23 Through its own experience, Tesla can affirm the
24 value these investments will have across the EV community.
25 As a company famous for never advertising, we have allowed

1 infrastructure investments to be our voice in communities
2 all across the State and country. When people see EV
3 chargers in their community and, even better, when they
4 see them in use, they are more inclined to consider
5 purchase themselves.

6 We recommend the Board expeditiously approve the
7 investment plan and allow for Volkswagen to move forward
8 with its plans here in California. Since the settlement
9 funds cannot be spent to operate Volkswagen's charging
10 network, the investment plan provides Volkswagen an
11 ongoing incentive to introduce more diverse EVs into the
12 market to ensure the infrastructure is used and their
13 investment is not wasted.

14 Thank you.

15 CHAIR NICHOLS: Thank you.

16 MR. ELRICK: Thank you, Chair.

17 Because of the early investment from the Air
18 Resources Board and the Energy Commission, the commercial
19 market for fuel cell electric vehicles began in 2015.
20 This week station number 26 opened here in Riverside, with
21 numbers 27 through 30 opening in the coming weeks.

22 Retail stations are standardized. Every car can
23 use every station, and every customer can use every
24 point-of-sale system with any credit card.

25 CEC has proposed funding for 16 additional

1 stations. And if all these funded stations open as
2 planned, California will have 65 hydrogen stations
3 statewide. We've learned a few things from these
4 stations.

5 First, hydrogen stations mean business in
6 California. We're seeing hydrogen station developer
7 start-ups as well as companies moving from Europe because
8 they believe in this technology and California.

9 Second, drivers love the cars. They aren't held
10 back by range anxiety and/or cars that are too small for
11 their families. The only thing standing in the way of ZEV
12 development are refueling points.

13 We need more stations. And ARB's own analysis
14 has found that if we continue at this pace, there will be
15 more demand for fuel than supply. And if that's happens,
16 fuel cell vehicles will slow down coming to the market.
17 Customers won't buy a car if they can't fuel them.

18 Volkswagen is a member of the California Fuel
19 Cell Partnership and continues to participate in our
20 meetings. They, like most automakers, will bring a fuel
21 cell vehicle to market with -- and will benefit from a
22 growing network of hydrogen stations. They may also
23 benefit from directly investing in the station development
24 start-ups as other automakers have.

25 California has benefited from ARB's fuel-neutral

1 position and commitment to all forms of alternative
2 transportation. Because of the agency's actions, our
3 State is a world leader in the deployment of fuel cell and
4 battery electric vehicles.

5 And I want to thank the Board and its staff for
6 continuing to show their strong leadership and initiative
7 for its citizens.

8 MS. MCGHEE: The ZEVs need infrastructure. I
9 suggest we make a requirement for renewable charging. The
10 technology is advanced charging. It is available. It's
11 off the grid. It further reduces emissions and is
12 actually zero-emission charging. It saves ratepayers
13 kilowatt-hour costs. The 150 and 350 kilowatt charging
14 power is not accepted in any car or medium-duty vehicle
15 today. The 50 kilowatt is broadening and it is accepted
16 and it is the future. Transit buses develop charging to
17 accept these levels due to their gross vehicle weight.

18 Most importantly, over 20 kilowatt triggers
19 kilowatt-hour demand fees, which will greatly increase the
20 cost of charging, which increases the cost of a mile.
21 Imagine this: The cost of a kilowatt-hour is absolutely a
22 benefit when compared to fossil fuels. This will
23 accelerate adoption.

24 Renewable infrastructure supports this. It saves
25 money to a ratepayer and it saves admissions. I would

1 like to invite a consideration. Demonstrations are
2 needed. We still need to know more and learn more about
3 many fleets and other types of charging patterns and
4 behaviors. That would be some of the barriers that we're
5 experiencing with short-range vehicles. This would be
6 specifically well suited for many of the fleets but the
7 inventory is just not available.

8 Thank you.

9 CHAIR NICHOLS: Thank you.

10 Did you have a comment?

11 BOARD MEMBER RIORDAN: I just wanted to say to
12 the staff, I think you have a very thoughtful
13 recommendation before us in the resolution that you've
14 provided, and I'm sure that in time we are going to
15 improve. We may have heard some things today we'd like to
16 include. But I think, you know, this is a great beginning
17 and I want to thank you very specifically for
18 acknowledging the part of this resolution that says that
19 we are encouraging and investing in activities that do not
20 unduly interfere with or undermined established or
21 emerging businesses. And I felt, you know, that was a key
22 issue for me, that people had gone out on their own and,
23 you know, had certain things before this whole thing
24 began.

25 And we need to continue to encourage them and

1 have a whole network of people. So I wanted to thank you.

2 I guess you have somebody that --

3 CHAIR NICHOLS: We still have two more witnesses.

4 BOARD MEMBER RIORDAN: I didn't realize that. I
5 thought we were finished. I wish we were finished.

6 CHAIR NICHOLS: That's okay. Your comment is
7 still --

8 (Laughter.)

9 CHAIR NICHOLS: -- still applicable.

10 (Laughter.)

11 CHAIR NICHOLS: All right. We have Mr. Harvey
12 Eder.

13 BOARD MEMBER RIORDAN: Oh, I didn't know.

14 CHAIR NICHOLS: And also Brendan Jones from
15 Electrify America.

16 MR. EDER: Hello.

17 There shouldn't be money in this that's paid for
18 fines, penalties. That should be something separate. And
19 this money could be used for seed money to leverage in
20 combination with solar for solar electric and solar
21 hydrogen fuel cells. And it could be especially directed
22 towards the low and disadvantaged income.

23 There -- thank you.

24 CHAIR NICHOLS: To your point, I don't think
25 there are any monies being spent that should have been

1 penalty money. I know you're going to be back for the
2 public comment because we've already got a card. So we'll
3 hear from you again.

4 Okay. Mr. Jones. Welcome.

5 MR. JONES: Thank you. Thank you, Board,
6 Chairman Nichols, to the CARB staff and the members of the
7 audience. I'm Brendan Jones. I'm the newly appointed COO
8 for Electrify America. Previously before that I was the
9 director of electric vehicles and infrastructure for
10 Nissan and also the vice president of OEM Development for
11 EVgo.

12 I am an EV enthusiast, an infrastructure
13 specialist. I believed in the space. After a 27-year
14 automotive career, I fell in love eight years ago with
15 what I am doing; and until the day I retire, I hope I
16 never stop. I found what I like, and I love what I do.

17 In regards to Volkswagen and our newly formed
18 company, Electrify America, we'd like to thank the Board
19 and thank the audience for the very valid comments we've
20 heard today. The ones that were very nice, were
21 complimentary; and we listened in particular to the ones
22 that had a little more sharp edges on them and elbows.
23 We're going to take all of those into consideration as we
24 move forward, and we look for the Board's and CARB's
25 advice and guidance as we continue to refine the plan.

1 The plan in essence seeks to use all aspects of
2 the EV space today: The providers today, the developers
3 today, the charger manufacturers, the installers, the
4 people that are investing their time and lives in this
5 unique opportunity that we have. We are going to continue
6 to advocate, to move forward, to use all the industry
7 players. And we're also going to do it in a very
8 customer-centric way, building stations that are visible,
9 usable, and convenient to the customers that exist today
10 and will buy EVs today, tomorrow, and into the future.

11 Thank you.

12 CHAIR NICHOLS: Before you leave, I have a few
13 questions for you --

14 (Laughter.)

15 MR. JONES: I almost got there.

16 CHAIR NICHOLS: -- which I hope you'll treat as
17 friendly, because they're meant to be. They're really
18 meant to give you an opportunity to explain more of your
19 thinking.

20 MR. JONES: Sure.

21 CHAIR NICHOLS: Because I've been fortunate
22 enough to read the plan and to read the plan that you --
23 the additional information that you filed with ARB. And I
24 know there's elements of that that are not public
25 information and that can't be discussed in public.

1 But I want to give you a chance - and I encourage
2 you to do more of this going forward - to tell us a little
3 bit more of your thinking how you got to where you are.

4 So, for example, on this issue of other EV
5 infrastructure efforts that are going on, for example, the
6 investor-owned utilities, what have you done or what are
7 you thinking you will be doing in terms of coordinating to
8 making sure that you're not, you know, putting chargers on
9 opposing corners as opposed to spreading them into places
10 that wouldn't -- in theory that would need them the most.
11 That may not be the best example. But I'm thinking of gas
12 stations where...

13 MR. JONES: Understand. And I'm happy to answer
14 that more particularly because I know the red light's not
15 going to go up in front of me.

16 CHAIR NICHOLS: It's not. No, no --

17 MR. JONES: So I feel good about that.

18 CHAIR NICHOLS: -- you can answer -- you can
19 answer it fully.

20 No, seriously, you're --

21 MR. JONES: So there's an ongoing effort with the
22 company right now to reach out and explore opportunities.
23 We heard the 1 point 1 equals 2 -- 1 plus 1 equals 2.
24 Internally we call it 1 plus 1 equals 3, and how do we
25 achieve that.

1 The effort to reach out to both investor-owned
2 utilities and municipal utilities is underway. So that we
3 don't overlap but yet we complement.

4 We've heard comments from others in the room such
5 as Pacific Gas & Electric, Southern California Edison, and
6 other utilities across the country. That is a key part of
7 our rollout plan, is how do we extend the dollars they're
8 investing with the dollars we're investing simultaneously.

9 CHAIR NICHOLS: So you have no reason to want to
10 invest where they are investing if it's already going to
11 happen.

12 MR. JONES: If it's already going to happen, we
13 need to complement that investment and spread. As we
14 heard, our chief concern is looking at the real data. So
15 this investment is only 400 chargers in the state of
16 California. There's 4,000 chargers already in the state
17 of California, so it is small in comparison.

18 And also if we look at the 10 percent that says
19 this investment over its span will only hit 10 percent of
20 the goal.

21 So we have to work with everybody else and make
22 sure that those efforts are complementary, not in
23 conflict.

24 CHAIR NICHOLS: And how are you approaching this
25 issue of investing in disadvantaged communities? What's

1 your -- at this point what's your thinking about that?

2 MR. JONES: Well, there's a two-pronged approach
3 to it first. So right now we've been identified between
4 25 and 35 percent of the investments in disadvantaged
5 communities. There'll be two specific over the life of
6 the investment identified communities. Sacramento is one
7 that is our suggestion. Another a yet to be identified.

8 I think what we owe back to CARB and to the Board
9 is a better definition of where those chargers are going
10 to go and how they're going to impact the community as a
11 whole.

12 We also need to work with those communities to
13 take our investment and expand it. It takes more than
14 just what Electrify America is going to bring to the
15 table. We've heard some statements from others who are EV
16 infrastructure partners and are out there. We encourage
17 them to also work with us in those communities.

18 It's one thing for us to do it. But if we have
19 all the players doing it, we're going to have a better
20 impact. And we want to work with them, not against them,
21 to create this. And I've done that before in a previous
22 job. I think we can do it here once we get past all the
23 details, et cetera. I see a collaborative effort as the
24 best effort for the State.

25 CHAIR NICHOLS: Do you have a response to the

1 suggestion that you should be investing in hydrogen
2 infrastructure as well?

3 MR. JONES: Oh, I'll admit at first I'm not the
4 expert on hydrogen infrastructure. It hasn't been a focus
5 of mine. I'm primarily an electric vehicle infrastructure
6 evangelist.

7 We are looking at it, as my boss has explained to
8 you, I think, several times. It has not been ruled out.
9 But we don't have any firm definition or commitment or how
10 we're going to do that yet. So it would behoove me not to
11 say anything other than that at this time.

12 CHAIR NICHOLS: Okay. And I guess maybe a last
13 question. Others may have more too. But I want to ask
14 you -- this is obviously a first of its kind -- the first
15 plan of its kind that I'm aware of that anyone has ever
16 done. And it's -- so it's a little bit of a work in
17 progress.

18 But how do you anticipate that future plans will
19 be different, either in terms of the process or what they
20 can take?

21 MR. JONES: Well, first I'm hoping I'm less
22 stressed about the future plans, because this one has been
23 very compact. I think, number one, we can learn from the
24 planning cycle we've gone through today. We'll have more
25 time.

1 We are building a strategy team. And the
2 strategy team's sole purpose is to begin planning for the
3 second cycle as soon as we get into the implement phase of
4 the first cycle. So that strategy team is going to reach
5 out and say first let's analyze everything we didn't like
6 about how it happened with the approval of Cycle 1. Then
7 second, we understand that more transparency -- someone
8 made the comment about opaqueness. We have to eliminate
9 both those perceptions and the reality of it both with the
10 public, with CARB, and with the CARB staff and the Board,
11 et cetera. And that doesn't mean just for California.
12 That's across the United States.

13 Then we really have to do a good job looking at
14 what all of our partners are doing, what type of
15 technology is going into the ground today. The first
16 investment takes care of a lot of EV infrastructure, Green
17 Cities. And then we have to look at what more do we need.
18 Demand charges within this State and demand charges across
19 the United States make driving an electric vehicle if
20 those demand charges were passed on to a consumer way more
21 expensive - double, triple, quadruple the price of
22 gasoline.

23 So we have to look at the investment and analyze
24 where does this opportunity allow us to mitigate demand
25 charges? Is it battery backups at each station? Is it

1 demand mitigation software? Is it working with the
2 utilities on a collaborative effort to lower demand
3 charges for consumers who drive EVs?

4 So that planning, along with doing a gap analysis
5 and looking at other investments, needs to happen early so
6 by the time we get to the Board and to CARB, that plan is
7 almost bulletproof and might need only minor modifications
8 over time.

9 CHAIR NICHOLS: How long have you been with the
10 company

11 MR. JONES: Six months.

12 CHAIR NICHOLS: Six months. Okay.

13 MR. JONES: Six months. And I had a full head of
14 hair.

15 (Laughter.)

16 CHAIR NICHOLS: How many people are there?

17 MR. JONES: So right now there's a staff of 13
18 hired from organizations such as Nissan, Greenlots, BMW
19 North America, EVgo and Nissan, G.E. -- I won't go -- give
20 you all their names. So we're bringing in EV
21 professionals who this is what they like. One thing I've
22 learned, that if you're going to be successful in this
23 space, you better like it. And while you can't make that
24 a hard hiring criteria, it is one that we are strongly
25 evaluating. You better like this space, because you're not

1 going to get anything accomplished. And you better learn
2 to listen; because if you don't listen, it's going to be
3 much harder.

4 CHAIR NICHOLS: So before I let you go or let you
5 answer any other questions, one more question that I was
6 going to ask you, which I found just -- oh.

7 What would you say to my friends and neighbors in
8 Los Angeles who obviously feel very strongly that they're
9 doing tremendous things with EVs and they, you know, would
10 like to do more and would like to be designated by you as
11 a Green City?

12 I need to go visit the people in Los Angeles. I
13 need to get them in a room. I need to explain in detail
14 what we plan on doing and see where there's opportunities
15 to improve upon that plan. I got that as a very clear
16 message. We took notes on that. So we have to plan a
17 meeting and we have to bring all those groups together;
18 because it's about communication. There's some things
19 frankly we will not be able to do in the plan and we're
20 not going to be able to please everybody. But with --
21 still the onus on us is to communicate what we can do and
22 find ways to extend our reach. And that very much is
23 something we'll do after the great folks of the city of
24 Los Angeles brought out the horses, the bandwagon. Not
25 much ammunition in terms of weapons, but everything else.

1 CHAIR NICHOLS: Oh, yeah. It was very positive,
2 I thought.

3 Okay. Just a couple of Board members have raised
4 their hand. So it was -- Alex Sherriffs was first and
5 then it was Senator Florez.

6 So, Dr. Sherriffs, if you want to go first.

7 BOARD MEMBER SHERRIFFS: Sure. Thank you.

8 This is \$300 million; and, you're right, this is
9 very fast. And I think -- and, you know, in a sense the
10 transparency, the opacity of the process, I think about
11 what this Board goes through to think about managing \$300
12 million and the length of the process. It's daunting what
13 you've been working with.

14 You know, I guess one thing I'm concerned, we've
15 heard about hydrogen and we have tried to be very fuel
16 neutral and, you know, you say it hasn't been ruled out.
17 I think we would like to hear it's in.

18 And if -- you know, it's great that you have
19 surrounded yourself with people that have passion about EV
20 and about electrification. But hydrogen is not going to
21 be on the radar if there aren't people -- their passion
22 about that as well.

23 So that's -- that's -- that's a concern.

24 This is very minor but kind of -- and then I
25 don't know if this is probably in the settlement and so

1 it's neither here nor there, and maybe it's a little bit
2 negative. But, you know, rather than saying "sponsored
3 by," I think what it should say is "Funded by VW
4 Settlement Decree," which carries I think an important
5 message. And I'm happy to see that spread everywhere.

6 The comments have been made about our valley, the
7 Central Valley. And we're only 10 percent of the
8 population. But similar to California getting 40 percent
9 of the settlement, well, in part that's because where the
10 most damage was done was in California when we look at
11 South Coast, Central Valley, the biggest impact of every
12 pollution molecule in terms of how that reverberated. And
13 so, likewise, the Central Valley may be only 10 percent.
14 But I hope in future plans there's a lot more attention to
15 the Valley. And in part, you know, the Valley, they
16 weren't here, L.A. was here. That's great. L.A. had some
17 wonderful ideas. And I hope, I hope Bakersfield, Fresno
18 are here with some wonderful ideas for the second plan.

19 You know, we want this plan to succeed. We want
20 this plan to succeed. We want this to work. You know, I
21 suppose one concern I have is it may pick off a lot of the
22 low-hanging fruit in terms of what other people have been
23 working on, what other groups have been struggling with.
24 So, again, we want it to succeed. There's -- we want it
25 to work.

1 But the complementarity is so important, so
2 critical, to be partnering with the organizations that
3 have been committed and doing so much in the past.

4 So again, you know, one of my major concerns is
5 to be sure that the Central Valley is very much on the
6 radar in subsequent plans.

7 There was an earlier comment, "Yeah, we need to
8 move forward, we need success." So, maybe not doing very
9 much with this first proposal. But, boy, we sure need to
10 look at these issues for the subsequent spending plans.

11 CHAIR NICHOLS: Okay. Senator Florez, followed
12 by Ms. Mitchell.

13 BOARD MEMBER FLOREZ: Mr. Jones, thank you for
14 joining us.

15 So you've been doing this for about six months;
16 correct?

17 MR. JONES: For Electrify America, that's
18 correct.

19 BOARD MEMBER FLOREZ: Yeah. So I guess my
20 question is, were you at our ARB meeting when we went over
21 our criteria in December?

22 MR. JONES: The original criteria meeting, no, I
23 was not in attendance for that meeting.

24 BOARD MEMBER FLOREZ: And were you able to attend
25 the legislative hearing that Ms. Peter went through the

1 other day at the Capitol?

2 MR. JONES: No. I received all the notes on the
3 legislative hearing though and read over them.

4 BOARD MEMBER FLOREZ: Okay. Well, thank you for
5 joining us today.

6 The reason I asked the question is, obviously you
7 heard a lot today about the 35 percent for disadvantaged
8 communities. In your comments you mentioned 35 percent
9 and 25 percent. And I could see you have a little
10 confusion. In our original PowerPoint presentation in
11 December there was a 25 percent number there. It has been
12 the Board's policy I believe to try to be at 35 percent
13 for disadvantaged communities.

14 So I'm wondering, where does that criteria
15 specifically fall within the way you made your decisions
16 on this plan?

17 MR. JONES: So the criteria for --

18 BOARD MEMBER FLOREZ: 35 percent.

19 MR. JONES: -- the 35 percent came first as a --
20 from the guidance document. And when we saw the guidance
21 document, it was the first time we have seen that. We
22 have been working backwards since that date to ensure that
23 where the infrastructure's going to go there's a degree of
24 compliance if not outright compliance with that. We're in
25 the process right now of continuing to refine that. And

1 we have new documentation that further defines, but it's
2 not available to the Board yet.

3 BOARD MEMBER FLOREZ: Got it.

4 MR. JONES: So I think on that topic, we have to
5 have a continuation of a dialogue.

6 BOARD MEMBER FLOREZ: Okay.

7 MR. JONES: I can't commit today of where we'll
8 be on a percentage, because, frankly, it's in flux and
9 it's in motion right now.

10 BOARD MEMBER FLOREZ: Well, that's my -- let me
11 just follow your train of thought then.

12 So you mentioned three words when you gave your
13 opening comment. You said, "Advice, guidance, and
14 refinement," and you just said the same thing again now.
15 So is it safe to say that the document that we have before
16 us today is not complete?

17 MR. JONES: No, it's -- the document is complete
18 in terms of where the investments are going to go. In
19 terms of what those investments --

20 BOARD MEMBER FLOREZ: So how does the 35 percent
21 fit in that then?

22 MR. JONES: Because the analysis wasn't 100
23 percent complete and did all of those chargers fit in if
24 you use the CalEnviroScreen, how much impact, where was
25 the -- when -- there's a geospatial analysis --

1 BOARD MEMBER FLOREZ: No, I get it.

2 MR. JONES: -- that goes in --

3 BOARD MEMBER FLOREZ: I get it.

4 MR. JONES: -- as well. We've just completed our
5 first round on the geospatial analysis, and that even
6 refines it further to say whether it was in. If this
7 particular charging station is in or without, and that
8 refinement is happening right now.

9 BOARD MEMBER FLOREZ: Okay. So when the
10 refinement occurs, will it be for this plan before us --
11 because we say yes or no to it. We don't like write out
12 what we'd like you to do. We simply say yes or no.

13 So I guess my questions is, so if I was looking
14 at 35 percent -- let's just use one of your metrics in
15 your plan. So 75 million for the highway. 25 percent is
16 what you utilized. But if you look at 25 percent of 75
17 million, which is of 200 million, it's about 9 percent
18 that actually go to the lowest quartile of disadvantaged
19 communities. 9 percent. Our standard here has always
20 been 35 percent. So we are severely behind in that
21 metric. And if I were to double it to go to 50th
22 quartile, we'd be at 18 percent.

23 If I were to take the highest number, 75 percent,
24 obviously we'd be at 36 percent.

25 I mean, I guess the point is we -- the way that

1 you have given us your rendition of our guidance leads me
2 to the conclusion that we are not close to the 35 percent
3 at all, which would leave me against the plan, quite
4 frankly; because I think the goal of it is to try to
5 maximize the 35 percent.

6 So let me just go a step further on timing from
7 your perspective. So let's say that Dr. Sherriffs is
8 correct -- and I think you would agree, we just kind of
9 rushed through this, right? I mean, we've had -- we put
10 our plan out. You replied in 10 days or so. And then we
11 are now seeing your plan for 10 days. And then staff told
12 us in their presentation somewhere about the end of April
13 we're supposed to say yes or no. That gives another 20
14 days.

15 So the way I look at it, it's a very fast process
16 for a lot of money, as Dr. Sherriffs said. Normally the
17 Board on that amount of money we'd take a little more time
18 to really kind of think about the metrics. But what's
19 interesting about it is in the next tier, the second
20 decree, are things I really like. So we have our EJ --
21 assistant EJ director involved. We have a target. We're
22 specifically pointing to a disadvantaged community in
23 totality, not as some sort of subsidiary off-highway
24 thing. We are pointing specifically to the
25 CalEnviroScreen. So there's some really like cool stuff

1 as we start to work out this second decree that I guess we
2 may have learned moving through the first.

3 So I guess my question is, are we slowing you
4 down or are we slowing ourselves down to just put both
5 together with the same criteria?

6 MR. JONES: Wow. There was a lot of great
7 content in what you said, and I don't know that I can
8 provide you at this point in time with an adequate
9 response. I mean, I'm not trying to brush off at all.

10 I think from our perspective, we have to look at
11 the consent decree and the mandates of the consent decree,
12 look at the guidance which we are taking seriously in
13 looking at the guidance, and look at the plan. And that
14 actively is taking place right now, and we're committed to
15 that.

16 I can't commit to you there's going to be a
17 hundred percent matchup to what the guidance was and what
18 the consent decree mandates. I can commit to you that
19 we're going to take measures to make sure that where
20 possible the chargers will be in those areas. And there's
21 going be no effort on behalf of Electrify America to
22 modernize or not place them there if it meets the plan.

23 So there's business considerations afoot and also
24 there is social and policy questions afoot, and we're
25 taking all those into consideration.

1 BOARD MEMBER FLOREZ: Okay.

2 MR. JONES: And I'm not trying to be evasive.

3 BOARD MEMBER FLOREZ: No, no.

4 MR. JONES: It's a difficult question.

5 BOARD MEMBER FLOREZ: That's fine.

6 Just a last question just in terms of the timing
7 as you see it. This is a very fast process. We -- the
8 staff took us to the timeline. If you do the days, it's
9 like every note is 6 or 7 or 10 days, and maybe there's a
10 30-day public participation.

11 The reason you saw Genevieve here from the
12 Central Valley as being one of the only EJ folks here is
13 because, when you talk to EJ folks and you tell them about
14 the settlement, they go, "What's going on?" And that
15 tells me there's not enough input, there's not enough
16 discussion, there's not enough dialogue, there's not
17 enough meetings. That means the EJ community should be
18 front and center. I can definitely tell you this room
19 would be filled with outrage if they knew somehow they
20 were part of a, you know, the one I-5 stop off of Harris
21 Ranch, and you had to drive there from Avenal for 30
22 minutes or you had to drive there from Hanford for 30
23 minutes, or you had to drive from Buttonwillow down to the
24 Bakersfield -- I mean.

25 So those are questions that EJ groups I know will

1 have very serious -- want to have some serious discussions
2 on.

3 But I guess to the point of the timeline, the
4 last question I was going to ask you is -- you mentioned
5 the word "complement." And we have heard a lot in our
6 discussions here in the Board, even at the first
7 presentation about, you know, giving you some sort of
8 competitive advantage in terms of the other companies that
9 are operating in this space. And I was very happy to hear
10 you say complement, because I think that's exactly what
11 the Board would like to do. But I think sometimes when we
12 complement, we kind of pile on in areas where there's a
13 lot of competition and where some of those areas are
14 rather well served, even though they need to grow.
15 Sacramento needs to grow. San Francisco needs to grow,
16 L.A. needs to grow. San Diego needs to grow. They're all
17 big urban centers where all of you folks are going to rush
18 in and hopefully do great jobs of getting the EVs
19 connected.

20 But when I think of the VW issue, I think about
21 sending you to places what you normally wouldn't go, you
22 know, places where you might want to think about
23 interconnective -- interconnecting some communities that
24 might be ignored.

25 So that's just kind of my thought process. So as

1 you start to think about that in the second tier or the
2 second consent decree, I think that's probably what I'd be
3 interested in hearing some of VW's thoughts.

4 The last point is, on the complement side, are
5 you coordinating with PUC in the short process? I mean,
6 it seems like we a had a lot of directive to you in our
7 own directive we put out to -- that you coordinated with
8 PUC, CEC. A lot of folks are putting infrastructure in.

9 How has that conversation gone thus far in these
10 30 days that you've seen the plan?

11 MR. JONES: So there is coordination on the
12 utility level, the depth and nature of it. I have another
13 senior director who handles that specifically. I get the
14 higher level feedback. And if I could recite all the
15 emails and the depth of those emails, I -- I wish I could.
16 And 10 years ago I might have been able to do better than
17 I can do today as well.

18 But I can tell you that I'm confident where it is
19 today, but I'm also cautious of the fact that it needs to
20 get much better.

21 BOARD MEMBER FLOREZ: Got it.

22 MR. JONES: There is newer meetings on the
23 calendar that are coming with the CPUC. I just read one
24 today; and myself and my colleague sitting back were
25 commenting on it.

1 So those efforts are ongoing, and they're also in
2 California and across the United States simultaneously.

3 BOARD MEMBER FLOREZ: Since I have you here, the
4 last -- the last question, I promise.

5 Is there a problem with combining the approach
6 that we're taking in the second decree as opposed to what
7 we're doing with the first? In other words, does it slow
8 you down if you feel that somehow you kind of got it right
9 a little more so on the second decree in terms of
10 disadvantaged communities, of involvement of our assistant
11 EJ director, involvement of CalEnviroScreen, of targeting
12 of both large and small communities where you have urban
13 centers and urban -- metropolitan centers combined with
14 communities, as you put, at least we have, you know,
15 500,000 and below as one of the criteria for you. I'm
16 just -- does that -- I guess the question is, what's the
17 drop deadline for VW for this plan? When does it not work
18 for you?

19 MR. JONES: For Cycle 1?

20 BOARD MEMBER FLOREZ: No, Cycle 1 and 2.

21 MR. JONES: Well, Cycle 1 I believe based on
22 where we're at, the consent decree was signed on October
23 26th, I believe. The clock started on January 1st. We're
24 already behind before we began.

25 BOARD MEMBER FLOREZ: And when you say we're

1 behind, why are we behind?

2 MR. JONES: There's a level of synchronicity
3 between the EPA plan and between the CARB plan.

4 BOARD MEMBER FLOREZ: Uh-huh.

5 MR. JONES: We have confidence that the CARB plan
6 is moving forward on time. We have concerns because we're
7 all still having a lot of debate that we're going to be a
8 little bit more delayed.

9 As the comment relates to the second cycle, I
10 think the second cycle gives us an opportunity to be more
11 clear and more up front in the early stages of planning on
12 what the differences are; and the differences are in
13 expectations. I can't sit here and commit to everything
14 that you're outlining. We have to look at what the
15 marketplace first yields from the first investment plan
16 when it is approved and then begins the implementation
17 phase. And we'll look at where the unmet expectations
18 were and can under the consent decree and the way its
19 established, written and the way we have to adhere to it,
20 do we have the ability to do everything that everyone
21 wants, the entire constituency group, under Cycle 2.
22 We're clearly not going to do everything. But there are
23 three more cycles to go.

24 BOARD MEMBER FLOREZ: Correct. And I just hope
25 you look at the 35 percent. That's really critical.

1 Thank you.

2 VICE CHAIR BERG: Senator Florez, I thought it
3 would be helpful too. Staff has a couple of comments on
4 the timing as well.

5 And so Ellen Peter.

6 CHIEF COUNSEL PETER: Thank you, Vice Chair Berg.

7 So, Senator Florez, just to give a little bit of
8 the timelines. You're talking about the second
9 agreement -- the first agreement and the second agreement.

10 So the one that was first signed by the -- that
11 we negotiated and was already approved by the Court, which
12 was the 2 liter deal. So all of the 800 million is in
13 that agreement. And that was negotiated in the spring of
14 2016 and signed and filed with the Court at the end of
15 June.

16 So at that point we had built in the
17 disadvantaged community as a concept as one of the
18 agreements. At that point, the figure that we used for
19 the CalEnviroScreen was the -- connected with the
20 Greenhouse Gas Reduction Fund. So that was SB 535. So in
21 the spring of 2016 that was set at 25 percent.

22 And so that was the second 2 liter deal that was
23 filed.

24 Then when you referring to the second decree when
25 we started negotiating it in the summer and fall of 2016,

1 at that point the legislature did two things that were
2 significant in terms of my looking at this, is they had
3 put in a lot of money into the budget for the EFMP Plus
4 Up, specifically for low income people getting ZEVs. And
5 so we -- we're in the negotiations for the next deal. And
6 so the 25 million was basically reflecting that signal
7 from the legislature for that program.

8 No more money was added into the investment.
9 That was still at 800 million from the beginning.

10 The other thing, what happened that summer was AB
11 1555 came in, which for the Greenhouse Gas Reduction Fund
12 went up to 35 percent. So we reflected that percentage in
13 the ARB guidance; but just in terms of the order, they
14 were happening at different times.

15 And also in that 3 liter agreement, that's when
16 we added the second Green City, with the emphasize that it
17 would be a disadvantaged city. So I think -- you're
18 right. Those concepts change between the 2 liter
19 agreement and the 3 liter agreement, and partially it was
20 reflecting what was happening in the legislature.

21 BOARD MEMBER FLOREZ: Right. And if the Board
22 liked the second part better than the first, could we not
23 just not approve this plan and have that plan 1 and 2
24 re-reflective of what you just said?

25 CHIEF COUNSEL PETER: So they're under an

1 obligation, which was, you know, set in October of 2016,
2 to start moving. And they submitted the plan and they're
3 following all of the deadlines. In terms of that's a
4 30-month cycle.

5 And so we can look at it. And what the plan is
6 in light of the concept decree and our guidance, if they
7 chose to, you know, add more in, they could do that. But
8 there's a tension I think in terms of timing and get the
9 money out the door.

10 Also the 30-month cyc -- the 30-month plan has
11 six-month check-ins and annual reports. So I think Mr.
12 Jones indicated that he was -- they were continuing to
13 look at it. So perhaps there's a process that's already
14 built in the consent decree for touch basis back where you
15 can -- we can -- the issues that you raise, which are from
16 the 3 liter decree, those concepts could be put in. But
17 the investment comes out of the 2 liter deal --

18 BOARD MEMBER FLOREZ: Thank you.

19 CHIEF COUNSEL PETER: -- if that's helpful.

20 MR. JONES: And, Senator, my colleague handed me
21 a document that is outlining some of new work and
22 analysis, and we'll make sure the Board gets it.

23 But the round-up is -- over 35 percent of the
24 investment will fall in areas in the bottom 2 quartile.

25 Now, we owe you more definition on that and we'll

1 work to get it. I want to make it more than just a
2 statement on a piece of paper, and rather something that's
3 meaningful for the staff and for the Board.

4 BOARD MEMBER FLOREZ: Uh-huh. 35 percent in the
5 bottom 2 quartile?

6 MR. JONES: That is correct.

7 BOARD MEMBER FLOREZ On the first --

8 MR. JONES: First investment.

9 BOARD MEMBER FLOREZ: On the first investment?

10 MR. JONES: Yeah, based on the initial analysis, yeah.

11 BOARD MEMBER FLOREZ: But 75 million of 200
12 million total is 35 percent. So you're saying all the 75
13 million is going to the bottom 2 percent quartile?

14 MR. JONES: No, it's specifically on the type of
15 investment instead of the total investment. So an
16 infrastructure investment, so it --

17 BOARD MEMBER FLOREZ: Now you'd do it, it's going
18 to have to add up to 75 million, just so you know.
19 There's no other way around it. It's 35 percent. Okay.

20 MR. JONES: We'll definitely have to allow a line
21 on math, on, you know, what -- is it out of the pure total
22 or the percent that is infrastructure only versus
23 awareness versus Green City? Yes, agreed.

24 CHAIR NICHOLS: Okay. So can we hear from Ms.
25 Mitchell now please.

1 BOARD MEMBER MITCHELL: I'll try make this
2 shorter than Senator Florez.

3 But first thing was, and some of my colleagues I
4 think agree on this, that no hydrogen fueling is in the
5 plan. And I'd certainly like to see some of that. The
6 hydrogen cars are just now coming out, and we need to give
7 a boost to that market. So I think that would be
8 important for you to consider including that. I mean, it
9 is an electric motor and run by hydrogen.

10 So That would be an important component.

11 The other thing I want to mention is that I
12 represent the South Coast Air District, and that's a
13 nonattainment air district. And it would be my conclusion
14 that the VW diesel cars probably contributed a lot to the
15 NOx problem that we suffer in the South Coast District.
16 And to that degree, I think you could consider that some
17 of the funds that you have in this pot should be going to
18 mitigate that damage.

19 And I'll give a shout out to L.A. as the next
20 Green City you choose. And that would be one of the
21 reasons that I think it would be a good choice. But it
22 certainly also has a lot of disadvantaged communities
23 where you could find ways to spend that money.

24 But, anyway, NOx is a big problem for us. And VW
25 actually exacerbated that. So we would hope you would pay

1 attention to that district.

2 Thank you.

3 CHAIR NICHOLS: Okay. Supervisor Serna.

4 BOARD MEMBER SERNA: Thank you, Chair.

5 So I certainly appreciate the fact that you've
6 been up here now for probably 30 minutes asking some
7 important -- addressing some important questions,
8 especially those that come from my colleague, Senator
9 Florez.

10 But I do feel like it's important at this point
11 to note the fact that the designation as the -- of the
12 first Green City deployment and, you know, obviously, as
13 the Sacramento Valley member of this Board, I'm delighted
14 to see that VW is proposing Sacramento for its first
15 deployment. But I think it's important to realize that
16 it's not just one aspect of a particular candidate Green
17 City that you're looking at.

18 I think it's pretty clear, especially in the
19 guidance document, that there are several different
20 contributing factors that will, you know, go into the mix
21 of making that determination. And as was stated by
22 Assistant City Manager John Dangberg, who was here on
23 behalf of Mayor Darrell Steinberg, the fact that
24 Sacramento is diverse -- extremely diverse - in fact, for
25 the last 20 years it's been noted in national media as

1 being one of the top 10 diverse municipalities anywhere in
2 the country.

3 Certainly we have some very, very disadvantaged
4 communities ourselves in not just the city but the county
5 of Sacramento. In fact, the district I represent has some
6 of the poorest census tracts anywhere in Northern
7 California.

8 So, I do appreciate that.

9 And let's not forget too that one of the most
10 important aspects of making a determination of the first
11 deployment is also the likelihood for success. And when
12 you look at what Sacramento has achieved, and has actually
13 achieved years ago - not just recently but years ago,
14 especially as it relates to our Take Charge initiative to
15 be EV ready, that was actually adopted by our Council of
16 Governments -- in fact, I was on the Board in 2013 when
17 that was adopted. And certainly as a county supervisor
18 enjoyed the deployment of that particular directive as it
19 reflects how we've actually incorporated EV readiness into
20 our county building codes and parking codes. So I think
21 complement of all these considerations, all these aspects
22 of what Sacramento has done to really prepare to be
23 successful, I think I have to believe that that is what
24 has really led Electrify America and the Green Cities
25 deployment determination to the conclusion it has in terms

1 of the proposal that Sacramento be that first Green City
2 deployment candidate.

3 So again, while I appreciate the fact that --
4 certainly appreciate the fact that disadvantaged
5 communities has to be, must be a consideration here and
6 how EV deployment and infrastructure to accommodate
7 deployment of EVs is an important factor, it's not the
8 only one.

9 CHAIR NICHOLS: Thank you.

10 Okay. Mr. De La Torre, you are next.

11 BOARD MEMBER DE LA TORRE: You've heard from two
12 of my colleagues about hydrogen infrastructure, and you
13 talk about electric vehicles, we talk about ZEV. We want
14 zero-emission vehicles. So whether it's battery electric
15 or hydrogen fuel cell, we want them both. We want to see
16 this play out. We don't know, you don't know. Maybe
17 you're betting on VHS, maybe you're betting on Beta. We
18 don't know. And so we want to play this out in both
19 marketplaces. My gut tells me they will both be out there
20 and they will be successful. Diesel and gasoline maybe.

21 So it is very important that we see a benefit
22 from this. And we're not Blanche DuBois here. We're not
23 relying on the kindness of strangers. We are here as a
24 party to a settlement for something that was done that was
25 terrible.

1 And so we need to have a commitment from you,
2 Electrify America, VW, whatever entity it is, that is
3 going to deliver what we're expecting -- what the people
4 of California are expecting, which is zero-emission
5 vehicles.

6 So that I think cannot be overstated. Because
7 it's been said by a couple of us, but I want to make it
8 really clear. Does that mean we're going to run to court?
9 Maybe. Does it mean we're going to run to the people of
10 California? Oh, yeah. We can do that.

11 So you will understand that in light of why we're
12 here, the only Ronald Reagan quote that I ever use, is
13 trust but verify. And so I will expect to see in the
14 fairly near future something that incorporates some
15 hydrogen infrastructure into this plan. That's a lot of
16 money, and the bulk of it can be BEV, but we need to see
17 something a little different as well.

18 Thank you.

19 CHAIR NICHOLS: I think "Trust but verify," it
20 was one of Ronald Reagan's made-up Russian proverbs he
21 liked to use, as I recall.

22 But, you know, I think you've heard from some of
23 our Board members. Not everybody has spoken, but I think
24 you can tell that there's a huge amount of interest in
25 this program going forward.

1 I just want to say that I appreciate your
2 commitment to the partnership concept. I believe based on
3 what I've read that you want this investment to be a
4 success. I don't usually -- I'm not usually modest about
5 ARB's ability to do absolutely anything, but I don't know
6 that we are the experts on how best to invest ZEV money,
7 to be quite clear here.

8 I think your need as a company to succeed in this
9 area is at least the equal of our need for you to be
10 successful from a policy perspective. And so I really
11 want to be open to hearing from you, you know, why you
12 make the decisions that you make. I think that is -- if
13 there's one thing that really emerges is there's a need
14 for that ability for all of the interested stakeholders to
15 be able to buy into the thinking that you have.

16 And so maybe we could just leave it at that for
17 the moment. And since it is now 6 o'clock and really is
18 evening, I'll ask if people are ready to move the
19 resolution that we have in front of us.

20 BOARD MEMBER SERNA: I'd like to move the
21 resolution.

22 BOARD MEMBER RIORDAN: I'll second the motion.

23 CHAIR NICHOLS: Okay. Without any further
24 discussion, all in favor please say aye.

25 (Unanimous Aye vote.)

1 (Board Member Eisenhut not present.)

2 CHAIR NICHOLS: Opposed?

3 None.

4 And no abstentions on this one.

5 So you have a resolution from us, which basically
6 is saying staff, you go, you know, work on the details
7 here within the parameters that I think we've laid out
8 pretty clearly. Keep us posted. And be well and prosper.

9 MR. JONES: Thank you, Chairman. Thank you,
10 Board. Thank you, CARB staff.

11 CHAIR NICHOLS: Thank you.

12 VICE CHAIR BERG: Mary, we do have --

13 CHAIR NICHOLS: We have one public commenter.
14 We're required by the Bagley-Keene Act to hear from any
15 member of the public who wishes to address us on a topic
16 that was not on the agenda.

17 And we have one speaker who has signed up. He's
18 spoken on every other occasion, on every other item, and
19 in public comment.

20 I don't see him at this moment.

21 Okay. He's coming. He's making his way down.

22 VICE CHAIR BERG: Could we please just sit down
23 for one moment. That'd be really great. We have two
24 minutes.

25 CHAIR NICHOLS: You are the last speaker of the

1 day.

2 MR. EDER: Okay. I want you -- when I was cut
3 off when you were talking to each other, that there was
4 \$153 million in civil penalties that was included in that
5 800 million. They don't need that money. It should go
6 for low income solar electric where they can get some
7 equity in co-ops or to actually finance public
8 transportation systems, which is used by other cities --
9 companies that need tax shelter. And been working on
10 models of that.

11 Anyway, everybody's going, so you can -- But I
12 don't think that 153 million -- I think that's in there.
13 It was in the sheet you were hanging up there. It was the
14 second "whereas" on page 4. The first above it was 41
15 million and then it said 153 million to pay civil
16 penalties.

17 And they can pay their own damn civil penalties
18 and do whatever time that they've got coming like anybody
19 else.

20 CHAIR NICHOLS: Right.

21 MR. EDER: Thank you.

22 CHAIR NICHOLS: Okay. Thank you.

23 I think we are adjourned.

24 (Thereupon the Air Resources Board
25 adjourned at 6:02 p.m.)

C E R T I F I C A T E O F R E P O R T E R

I, JAMES F. PETERS, a Certified Shorthand Reporter of the State of California, do hereby certify:

That I am a disinterested person herein; that the foregoing California Air Resources Board meeting was reported in shorthand by me, James F. Peters, a Certified Shorthand Reporter of the State of California, and was thereafter transcribed, under my direction, by computer-assisted transcription;

I further certify that I am not of counsel or attorney for any of the parties to said meeting nor in any way interested in the outcome of said meeting.

IN WITNESS WHEREOF, I have hereunto set my hand this 10th day of April, 2017.



JAMES F. PETERS, CSR
Certified Shorthand Reporter
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