

MEETING
STATE OF CALIFORNIA
AIR RESOURCES BOARD

SAN JOAQUIN VALLEY
AIR POLLUTION CONTROL DISTRICT
1990 E. GETTYSBURG AVENUE
FRESNO, CALIFORNIA

THURSDAY, OCTOBER 20, 2016

9:10 A.M.

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

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Senator Dean Florez

Supervisor John Gioia

Ms. Judy Mitchell

Mrs. Barbara Riordan

Supervisor Phil Serna

Dr. Alex Sherriffs

Ms. Diane Takvorian

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Ms. La Ronda Bowen, Ombudsman

Ms. Emily Wimberger, Chief Economist

Ms. Analisa Bevan, Assistant Division Chief, Emission
Compliance, Automotive Regulations, and Science
Division(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. Joe Calavita, Staff Air Pollution Specialist, Mobile Source Control Division (MSCD)

Mr. Michael Carter, Assistant Division Chief, MSCD

Mr. David Chen, Manager, Advanced Emission Control Strategies Section, MSCD

Mr. Daniel Hawelti, Air Resources Engineer, On-Road Heavy-Duty Diesel Section, MSCD

Ms. Kim Heroy-Rogalski, Branch Chief, Mobile Source Regulatory Development Branch, MSCD

Ms. Alexandra Kamel, Attorney, Legal Office

Ms. Deborah Kerns, Senior Attorney, Legal Office

Mr. Jack Kitowski, Division Chief, MSCD

Mr. Stephan Lemieux, Manager, On-Road Heavy-Duty Diesel Section, MSCD

Ms. Renee Littaua, Manager, Strategic Planning and Development Section, MSCD

Ms. Lisa Macumber, Manager, Innovative Light-Duty Strategies, MSCD

Ms. Karen Magliano, Division Chief, AQPSD

Ms. Lucina Negrete, Chief, Innovative Strategies Branch, MSCD

Mr. Andrew Panson, Staff Air Pollution Specialist, Innovative Light-Duty Strategies Section, MSCD

Mr. Alex Santos, Staff Air Pollution Specialist, On-Road Heavy-Duty Diesel Section, MSCD

Ms. Maritess Sicat, Chief, Heavy-Duty Off-Road Strategies Branch, MSCD

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

STAFF:

Mr. Webster Tasat, Manager, Central Valley Air Quality Planning Section, Air Quality Planning and Science Division (AQPSD)

Mr. Jon Taylor, Assistant Division Chief, AQPSD

Ms. Sylvia Vanderspek, Chief, Air Quality Planning Branch, AQPSD

ALSO PRESENT:

Mr. Fraser Atkinson, GreenPower Bus

Mr. John Boesel, CALSTART

Mr. Nico Bouwkamp, California Fuel Cell Partnership

Dr. Rasto Brezny, Manufacturers of Emission Controls Association

Mr. Chris Brown, Feather River Air Quality Management District

Mr. Manuel Cunha, Jr., Nisei Farmers League

Mr. Todd De Young, San Joaquin Valley Air Pollution Control District

Ms. Janet Dietzkamei, Asthmatics of San Joaquin Valley

Dr. Don Gaede, Fresno Madera Medical Society

Ms. Genevieve Gale, Young Fresnans for the Environment

Mr. Douglas Gearhart, Lake County Air Quality Management District

Mr. Larry Greene, Sacramento Metropolitan Air Quality Management District

Ms. Virginia Gurrola, City Council Member, City of Porterville

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

ALSO PRESENT:

Mr. Kevin Hamilton, Central California Asthma Collaborative

Ms. Jennifer Hanshew, California Association of School Transportation Officials

Mr. Henry Hogo, South Coast Air Quality Management District

Mr. Roger Isom, Western Agricultural Processors Association

Mr. Ryan Kenny, Clean Energy

Mr. Thomas Lawson, California Natural Gas Vehicle Coalition

Dr. Janelle Lee

Mr. Rudy Le Flore, Sunline Transit

Mr. Rey Leon, Valley LEAP, Green Raiteros

Mr. Jamie Levin, Center for Transportation & the Environment

Mr. Bill Magavern, Coalition for Clean Air

Mr. Christopher Miller, Advanced Engine Systems Institute

Ms. Colby Morrow, Southern California Gas Company

Mr. David Norris, Lakeport Unified School District

Mr. Chris Peeples, Alameda-Contra Costa Transit District

Mr. Nicholas Pocard, Ballard Power Systems

Mr. Seyed Sadredin, San Joaquin Valley Air Pollution Control District

Mr. Jeff Serfass, California Hydrogen Business Council

Mr. Tim Shannon, Twin Rivers Unified School District

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

ALSO PRESENT:

Ms. Sarah Sharpe, Central California Asthma Collaborative

Mr. Joseph Steinberger, Bay Area Air Quality Management District

Mr. Milt Stowe, Mayor, City of Porterville

Mr. Richard Teebay, County of Los Angeles

Mr. Cliff Thorne, Orange County Transportation Authority

Mr. Eileen Tutt, California Electric Transportation Coalition

W. James Wagoner, Butte County Air Quality Management District

Mr. David Warren, New Flyer of American

Ms. Dolores Weller, Central Valley Air Quality Coalition

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P R O C E E D I N G S

1
2 VICE CHAIR BERG: Good morning, everyone. Chair
3 Nichols is on her way here. And we thought, in the
4 interests in time, that we would go ahead and get started.
5 She's flying in this morning. My understanding is that
6 she has landed and on her way. And so we will be
7 expeditious by starting, and then, of course, once she
8 arrives she will take over the meeting.

9 So good morning. I'm Sandy Berg, Vice Chair.
10 And I'd like to bring the October 20th, 2016 public
11 meeting of Air Resource Board will come to order.

12 Will you please stand with me for the pledge of
13 allegiance.

14 (Thereupon the Pledge of Allegiance was
15 recited in unison.)

16 VICE CHAIR BERG: Thank you.

17 Madam Clerk, will you call the roll

18 BOARD CLERK HARLAN: Dr. Balmes?

19 Mr. De La Torre?

20 Mr. Eisenhut?

21 BOARD MEMBER EISENHUT: Here.

22 BOARD CLERK HARLAN: Senator Florez?

23 BOARD MEMBER FLOREZ: Here.

24 BOARD CLERK HARLAN: Supervisor Gioia?

25 BOARD MEMBER GIOIA: Here.

1 BOARD CLERK HARLAN: Ms. Mitchell?

2 BOARD MEMBER MITCHELL: Here.

3 BOARD CLERK HARLAN: Mrs. Riordan?

4 BOARD MEMBER RIORDAN: Here.

5 BOARD CLERK HARLAN: Supervisor Roberts?

6 Supervisor Serna?

7 BOARD MEMBER SERNA: Here.

8 BOARD CLERK HARLAN: Dr. Sherriffs?

9 BOARD MEMBER SHERRIFFS: Here.

10 BOARD CLERK HARLAN: Professor Sperling?

11 Ms. Takvorian?

12 BOARD MEMBER TAKVORIAN: Here.

13 BOARD CLERK HARLAN: Vice Chair Berg?

14 VICE CHAIR BERG: Here.

15 BOARD CLERK HARLAN: Chair Nichols?

16 Madam Vice Chair, we have a forum.

17 VICE CHAIR BERG: Thank you very much.

18 First, I'd like to start the meeting by saying
19 thank you to the San Joaquin Valley Air District. It's
20 wonderful to be back, and we really appreciate you hosting
21 us and being so gracious and organizing, so that we could
22 have our meeting here today. And we thank you Seyed and
23 your group, and we're really looking forward to a very
24 productive day. And great to see you.

25 I have a few announcements before we get started

1 this morning. Anyone wishing to testify, should fill out
2 a speak -- request to speak card, and that's available
3 outside the Board room. Please turn it into our Board
4 assistant or the clerk of the Board prior to the
5 commencement of the item.

6 Also, we'd like to encourage you to be aware that
7 we will impose a 3 minute time limit for each of the
8 speakers. Please state your first and last name when you
9 come up to the podium, which is here on my right. Put
10 your testimony in your own words, as it is easier for the
11 Board to follow. And we encourage you to go to your main
12 points, because 3 minutes goes by very quickly. If you
13 have a written submission, written comments, they have
14 already been submitted, and the Board members have had an
15 opportunity to review those.

16 For safety reasons, please note that the
17 emergency exits are to the rear and side of the room. In
18 the event of a fire alarm, we're required to evacuate this
19 room immediately, and go out to the parking lot gate to
20 the open -- empty open area to the west of the building.
21 When the all-clear signal is given, we'll return to the
22 hearing room and resume the meeting.

23 So with that, I think we'll go ahead with our
24 first item. Our first item is Agenda Item 16-9-1. It is
25 a consent item, and the only consent item we have this

1 morning. So I'd like to ask the Board clerk if any
2 witnesses have signed up?

3 BOARD CLERK HARLAN: (Shakes head.)

4 VICE CHAIR BERG: Seeing none, I'd like to ask
5 the Board members would anyone like to take this consent
6 item off of the consent calendar?

7 Seeing none, I will close the record on this
8 agenda item. Having the Board members had an opportunity
9 to review the resolution, do I have a motion and a second
10 to adopt?

11 BOARD MEMBER RIORDAN: Madam Chairman, I'd be
12 happy to approve the staff recommendations and the items
13 that go with it.

14 VICE CHAIR BERG: Thank you. A second?

15 BOARD MEMBER EISENHUT: Second.

16 VICE CHAIR BERG: Thank you.

17 All in favor?

18 (Ayes.)

19 (Chair Nichols not present.)

20 VICE CHAIR BERG: Opposed?

21 Abstained?

22 Carried.

23 The next item on today's agenda, the proposed
24 innovative technology regulation would encourage voluntary
25 early deployment of innovative new truck and bus

1 technology that California needs to meet its air quality
2 and climate goals by providing these technologies with
3 targeted short-term ARB certification flexibility.

4 Recent news around the in-use emission
5 performance of certain light-duty vehicles underscores the
6 importance of ARB's engine and vehicle certification
7 program, and continued need for a rigorous certification
8 program to validate vehicle emission compliance and
9 enforce emission standards.

10 I understand staff is not proposing any major
11 changes to how California evaluates or certifies advanced
12 technologies. Rather, this program proposes a regulation
13 intended to encourage near-term technology innovations by
14 reducing initial resource and engineering challenges
15 inherent in certifying a new truck or bus technology for
16 the first time, while still maintaining the integrity of
17 ARB's certification process.

18 To the extent that staff proposals encourages
19 additional early deployment and development and deployment
20 of zero and near zero truck and bus technology, it would
21 complement ARB's low carbon transportation and other
22 funding programs and enable development of more robust
23 technology-advancing regulations in the years to come.

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

25 EXECUTIVE OFFICER COREY: Yes. Thanks, Vice

1 Chair Berg. 2016 has been a defining year for
2 illustrating what will be needed for California to meet
3 its air quality and climate goals. This summer, we
4 released the California Sustainable Freight Action Plan to
5 transition to cleaner, more efficient transport system.
6 And last month, we updated the Board on the State's
7 proposed control measures, which are needed to attain more
8 health protective federal air quality standards in the San
9 Joaquin Valley, South Coast, and throughout California.

10 And early next year, staff will present to the
11 Board its draft update to the Climate Change Scoping Plan,
12 our strategy to meet California's 2030 climate goals
13 recently affirmed by the legislature, and make progress
14 towards our 2050 greenhouse gas targets.

15 The common thread through each of these plans is
16 the critical need for California to transition to a more
17 efficient zero and near zero emission technologies across
18 all sectors, including the truck and bus sector.

19 The proposed regulation before you today would
20 facilitate this needed technology transformation by
21 encouraging manufacturers to develop and deploy key
22 innovative truck and bus technologies before they're
23 required by regulation. The proposed innovative
24 technology regulation has been an interdivisional effort
25 on ARB certification, regulatory development, and air

1 quality planning staff to develop what is a balanced and
2 creative approach to address potential technology
3 certification barriers while maintaining and, in some
4 cases, enhancing our ability to ensure these technologies
5 achieve their anticipated air quality benefits.

6 Now, with that, I'm going to ask Joe Calavita of
7 the Mobile Source Control Division to give the staff
8 presentation.

9 Joe.

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

12 AIR POLLUTION SPECIALIST CALAVITA: Thank you,
13 Mr. Corey.

14 Good morning, Vice Chair Berg and members of the
15 Board.

16 I'll begin this morning's presentation with some
17 background on the need for the proposed innovative
18 technology regulation before describing the proposed
19 regulation's individual elements.

20 --o0o--

21 AIR POLLUTION SPECIALIST CALAVITA: The proposed
22 innovative technology regulation would provide innovative
23 truck and bus technologies that California needs to meet
24 its air quality and climate goals with short-term targeted
25 ARB certification flexibility in order to encourage and

1 enable their early deployment.

2 This proposed certification flexibility has been
3 structured to address each technology's potential initial
4 certification challenges, while maintaining the ability to
5 ensure anticipated emission benefits are achieved in use.

6 Let's start with a brief overview of ARB's engine
7 and vehicle certification program and why it's important.

8 --o0o--

9 AIR POLLUTION SPECIALIST CALAVITA: ARB
10 certification requires that a new engine or vehicle
11 demonstrate compliance each model year with the applicable
12 emission standard before it may be sold in California.
13 Certification requires rigorous emission testing, and
14 on-board diagnostics, useful life, warranty and other
15 requirements geared to ensure the vehicle does not exceed
16 emission limits when new and as it ages.

17 Certification defines a reliable
18 scientifically-sound process for evaluating vehicle and
19 engine emissions, enabling development, implementation,
20 and enforcement of significantly lower vehicle emission
21 limits over time. Vehicle certification has provided the
22 technical foundation for California to achieve significant
23 reductions in smog and unhealthy air days, even as
24 California's population, vehicle miles traveled, and
25 economy have grown.

1 As vehicle technology has advanced, our
2 certification program has evolved as well. One of our
3 newest certification elements, on-board diagnostics, is a
4 particularly critical tool for ensuring in-use vehicle
5 emissions remain low.

6 --o0o--

7 AIR POLLUTION SPECIALIST CALAVITA: On-board
8 diagnostics refers to sophisticated and interrelated
9 software and sensors that monitor virtually every
10 component on a vehicle that can cause excess emissions,
11 and provides owners with an early warning of malfunctions
12 by way of a dashboard check engine light. By providing
13 early warning of engine and after-treatment system
14 malfunctions, OBD not only controls in-use emissions, but
15 also protects vehicle consumers by helping them identify
16 minor problems before they require major repairs.

17 OBD has been common in passenger cars since late
18 1990's and was phased in for heavy-duty diesel engines
19 between 2010 and 2013. Alternative fuel engines are
20 exempt from OBD requirements until 2018, due in part to
21 their low-anticipated sales volumes. So you may be
22 wondering how OBD fits into today' proposals?

23 --o0o--

24 AIR POLLUTION SPECIALIST CALAVITA: One thing
25 we've learned as a greater diversity of advanced vehicle

1 technologies apply to ARB for certification, is that some
2 certification requirements, particularly OBD compliance
3 requirements, can pose initial engineering challenges.
4 OBD is one of greatest assets, but it is often the most
5 challenging certification requirement for new
6 technologies.

7 The cost and engineering resources required to
8 demonstrate OBD compliance can also deter manufacturers
9 from choosing to introduce innovative new truck and bus
10 technology, particularly if fleet demand for the new
11 technology is uncertain. While we've made significant
12 progress in reducing emissions and improving air quality,
13 we still have a long way to go to ensure clean healthful
14 air for all residents, and a stable climate for future
15 generations.

16 As indicated by Executive Officer Corey,
17 achieving our air quality and climate goals will require
18 that California accelerate its transition to the next
19 generation of cleaner more efficient truck and bus
20 technologies. So how would this proposed regulation help
21 us achieve this transition?

22 --o0o--

23 AIR POLLUTION SPECIALIST CALAVITA: The proposed
24 innovate technology regulation includes 2 elements. The
25 first, certification flexibility for new heavy-duty

1 engines would cover the 3 categories of engines identified
2 here. Truck and bus engines meeting California's optional
3 low NOx emission standards, high efficiency heavy-duty
4 engines, which I'll define later in the presentation, and
5 engines certified for insulation in a heavy-duty hybrid
6 truck or bus.

7 When certifying these engines with ARB to
8 demonstrate compliance with criteria pollutant emission
9 standards, a manufacturer would be eligible to receive
10 this proposed regulation's flexibility.

11 This proposal would not provide flexibility from
12 existing engine emission testing, warranty, or other core
13 certification requirements not otherwise specified in the
14 staff proposal.

15 The second part of the proposed regulation
16 defines certification and installation procedures for
17 hybrid after-market conversion systems for trucks and
18 buses. These proposed hybrid conversion system
19 certification requirements would allow installation of an
20 after-market kit that converts an existing non-hybrid
21 truck or bus into a hybrid. These proposed hybrid
22 conversion system requirements would replace ARB's
23 case-by-case evaluation of such systems, with proposed
24 requirements structured to encourage and enable early
25 deployment of hybrid conversion systems.

1 The proposal before you today was developed with
2 the support and expertise of ARB's heavy-duty on-board
3 diagnostics and certification teams, as well as input from
4 technology manufacturers and other stakeholders to help us
5 struck the appropriate balance between certification
6 flexibility, and encouraging early deployment of
7 innovative truck and bus technologies.

8 --o0o--

9 AIR POLLUTION SPECIALIST CALAVITA: Staff's
10 proposal primarily provides short-term certification
11 flexibility geared to address each technology's potential
12 certification challenges. By encouraging manufacturers to
13 bring advanced truck and bus technologies to market before
14 required to do so by regulation, the proposed
15 certification flexibility is intended to help accelerate
16 the commercial availability of these technologies.

17 This regulation would work synergistically with
18 Greenhouse Gas Reduction Fund and other incentive programs
19 enabling us to fund a greater diversity of clean truck and
20 bus technologies.

21 Early technology deployment would also enable
22 more effective technology advancing rule-making. Later
23 today, you'll get an update on the need to adopt mandatory
24 low-NOx engine emission standards in order to attain
25 federal ozone standards in the South Coast and particulate

1 matter standards here in the valley. A greater diversity
2 of optional low NOx truck and bus engines on the market,
3 in multiple sizes and vocations, would enable ARB to adopt
4 a more robust mandatory low-NOx engine standard.

5 Later today, you'll also get an update on the
6 final federal phase 2 truck and bus greenhouse gas
7 standards, and the need for California to achieve
8 additional GHG reductions beyond phase 2 to meet our
9 climate targets. The proposed innovative technology
10 regulation would help advance this goal by encouraging
11 early development and deployment of more efficient
12 heavy-duty engines and hybrids that go beyond what is
13 required by federal phase 2 standards.

14 The next several slides provide staff's proposal
15 for each of the proposed innovative technologies.

16 --o0o--

17 AIR POLLUTION SPECIALIST CALAVITA: I'll start
18 with an overview of proposed certification flexibility for
19 the 3 innovative heavy-duty engine categories: Optional
20 low-NOx engines, high-efficiency engines, and heavy-duty
21 hybrids. For the purposes of this proposal, a heavy-duty
22 engine refers to an engine certified for use in a truck or
23 bus weighing at least 14,000 pounds.

24 These could include an engine installed in a
25 delivery truck, work truck, drayage truck, tractor

1 trailer, shuttle, school, or transit bus, or other
2 heavy-duty vehicle.

3 --o0o--

4 AIR POLLUTION SPECIALIST CALAVITA: First, let's
5 look at engines meeting California's optional low-NOx
6 emission standards, which are up to 90 percent lower for
7 NOx than engines meeting the existing mandatory NOx
8 standard.

9 The proposed innovative technology regulation
10 would provide a participating optional low-NOx engine with
11 very modest certification flexibility, since we believe
12 these engines are unlikely to face significance OBD
13 compliance challenges. Engines would generally be
14 required to have fully functional OBD systems with
15 flexibility tailored primarily to reduce initial
16 certification costs.

17 The proposal would also allow an assigned engine
18 deterioration factor be used instead of requiring the
19 engine be aged over its useful life to demonstrate
20 deteriorated engine emissions. Use of an assigned engine
21 deterioration factor is common practice when certifying
22 engines from small volume manufacturers, and can
23 significantly reduce the time and resources required to
24 certify a new engine.

25 Each manufacturer would be eligible for up to 3

1 model years of certification flexibility, through the
2 model years identified on this slide. These proposed
3 eligible ability sunset dates reflect the potential
4 technology readiness of spark ignition alternative fuel
5 low-NOx engines versus compression ignition diesel low-NOx
6 engines, and provide an opportunity for manufacturers to
7 bring both to market in advance of a potential mandatory
8 low-NOx engine standard in the 2024 time frame.

9 Finally, to be eligible for the proposed
10 certification flexibility, a low-NOx engine must go beyond
11 what is required by the applicable mandatory NOx standard
12 for a given model year. That means low-NOx engines
13 receiving this flexibility, when certifying with ARB,
14 would be ineligible to participate in NOx emission
15 averaging, banking, or trading programs.

16 --o0o--

17 AIR POLLUTION SPECIALIST CALAVITA: Staff's
18 proposal would also provide certification flexibility for
19 a high efficiency engine, which is defined as meeting this
20 proposed regulation's new optional low CO2 engine emission
21 standards. These proposed new optional low CO2 engine
22 emission standards represent a 15 percent CO2 reduction
23 relative to a typical 2017 diesel engine, and are more
24 than 10 percent lower than what is required in the 2027
25 model year by federal phase 2 GHG standards.

1 The proposed optional low CO2 engine emission
2 standards have been informed by ARB's recently completed
3 technology assessments, and represent what we believe
4 could potentially be achieved by more efficient camless or
5 opposed piston engine architecture over the next decade.

6 While engine-efficiency gains of this magnitude
7 may be challenging, the optional low CO2 standards are
8 intended to set an aspirational goal for manufacturers,
9 and could be transformational, particularly in the
10 line-haul truck sector, which is responsible for the bulk
11 of heavy-duty truck emissions.

12 --o0o--

13 AIR POLLUTION SPECIALIST CALAVITA: And engine
14 meeting the optional low CO2 emission standards would be
15 eligible for up to 6 model years to transition to full OBD
16 compliance through 2027. This proposed extended
17 compliance timeline reflects the potential initial
18 engineering challenges in developing OBD systems for what
19 could be a new more efficient engine architecture.

20 An engine meeting the proposed optional low CO2
21 standards would have CO2 emissions well below what is
22 required by phase 1 or phase 2 GHG standards. However, to
23 ensure the emission benefits of such an engine aren't
24 offset by a manufacturer's other higher emitting engines,
25 an optional low CO2 engine receiving the proposed

1 certification flexibility would be ineligible to
2 participate in GHG emission averaging, banking, or trading
3 programs.

4 This approach helps ensure this element of the
5 proposed regulation encourages GHG reductions beyond what
6 is required by phase 2 standards.

7 --o0o--

8 AIR POLLUTION SPECIALIST CALAVITA: Hybrid
9 technology can also achieve GHG reductions beyond what is
10 required by phase 2 standards. And also help pave the way
11 for more advanced zero emission truck and bus technology.
12 Unfortunately, demand for hybrid trucks and buses has been
13 limited, potentially due to historically low fuel prices.

14 Several vehicle manufacturers have discontinued
15 production of heavy-duty hybrid trucks and buses and no
16 plug-in hybrid trucks or buses are commercially available
17 at this time. Unlike with passenger cars, where a single
18 manufacturer is generally responsible for production of
19 the entire vehicle, hybrid truck and bus manufacturer --
20 manufacturing is typically not vertically integrated,
21 meaning the engine, hybrid driveline, and truck or bus
22 chassis are often produced by different manufacturers.

23 This non-vertically integrated manufacturing
24 structure makes it more difficult to optimize vehicle and
25 emission performance and can create OBD compliance

1 challenges.

2 --o0o--

3 AIR POLLUTION SPECIALIST CALAVITA: In order to
4 facilitate initial certification, a manufacturer would be
5 eligible to phase in OBD compliance over up to 4 or up to
6 6 model years, depending upon whether or not the hybrid
7 vehicle is capable of at least 35 miles of interrupt --
8 uninterrupted all-electric range.

9 The longer eligibility window for hybrids with
10 significant all-electric range recognizes that there are
11 no plug-in hybrid trucks or buses commercially available
12 today, and the importance of robust plug-in hybrids in
13 paving the way for zero emission truck and bus technology.

14 The 35 mile all-electric range threshold is based
15 upon discussions with interested manufacturers regarding a
16 hybrid truck's optimal all-electric range, given battery
17 costs and the typical commercial vehicle's average daily
18 mileage.

19 CO2 emission reductions from a hybrid certifying
20 with the proposed flexibility would have to go beyond what
21 is required by phase 1 or phase 2 GHG standards, and a
22 vehicle could not participate in GHG emission averaging,
23 banning, or trading programs.

24 --o0o--

25 AIR POLLUTION SPECIALIST CALAVITA: Heavy-duty

1 hybrids would have one additional requirements to be
2 eligible for this regulation's proposed flexibility.
3 Emission testing suggests that some hybrid trucks may emit
4 more NOx in use than their non-hybrid counterparts. This
5 may be due to insufficient integration of the heavy-duty
6 engine and the hybrid driveline which are often produced
7 by different manufacturers. ARB is funding additional
8 research by the National Renewable Energy Laboratory to
9 better understand the reason for higher than anticipated
10 NOx emissions from some heavy-duty hybrids.

11 In the meantime, the proposed innovative
12 technology regulation requires -- would require that a
13 hybrid truck or bus must demonstrate no NOx, hydrocarbon,
14 or carbon monoxide emission increase pursuant to
15 supplemental chassis or vehicle-based emission testing to
16 be eligible for the proposed certification flexibility.

17 Staff's proposal leverages advancements in
18 portable emission measurement system, or PEMS, technology.
19 To define regulatory test procedures for evaluating
20 over-the-road emissions of a hybrid truck relative to its
21 non-hybrid counterpart.

22 Proposed supplemental PEMS test procedures to
23 evaluate in-use hybrid vehicle emissions are also intended
24 to encourage development of vertically integrated and
25 robust hybrid trucks and buses, and could inform future

1 efforts for a more holistic approach to heavy-duty vehicle
2 emission certification and enforcement.

3 --o0o--

4 AIR POLLUTION SPECIALIST CALAVITA: Finally,
5 there is one more category of potentially more efficient
6 hybrid vehicle technology that would be eligible for the
7 proposed regulation. Some technology manufacturers have
8 approached ARB proposing to install a small off-road or
9 light- or medium-duty engine in a plug-in heavy-duty truck
10 or bus that would achieve significant all-electric range.
11 These engines would not be connected to the drive shaft
12 and would not directly propel the vehicle.

13 Instead, the engine would operate at steady state
14 to recharge the truck or bus battery, which in turn would
15 propel the vehicle. Some manufacturers argue that these
16 smaller off-road or light-duty engines would be more
17 efficient than a larger heavy-duty truck engine performing
18 the same function.

19 The proposed innovate technology regulation would
20 provide an interim certification pathway for such
21 technology, allowing a manufacturer to phase in OBD
22 compliance for a limited number of engines through 2024.
23 These interim certification procedures are intended to
24 enable this potential technology's market launch in the
25 near term while informing development of permanent

1 certification criteria, if needed, in the long term.

2 --o0o--

3 AIR POLLUTION SPECIALIST CALAVITA: The second
4 and final part of this proposed regulation would identify
5 ARB requirements to allow an after-market manufacturer to
6 convert a non-hybrid medium- or heavy-duty vehicle into a
7 hybrid.

8 --o0o--

9 AIR POLLUTION SPECIALIST CALAVITA: As mentioned
10 earlier, very few hybrid trucks and buses are commercially
11 available from truck or bus manufacturers. And no
12 commercial hybrid medium-duty vehicles, such as pick-up
13 trucks or vans, are produced by vehicle manufacturers.

14 Hybrid conversion system manufacturers have
15 stepped into this void by offering a variety of hybrid
16 after-market systems to convert a certified non-hybrid
17 truck or bus into a hybrid vehicle. Hybrid conversion
18 systems can facilitate development of an early hybrid
19 truck and bus market by enabling interested California
20 fleets to purchase, evaluate, and become familiar with
21 hybrid technology. Hybrid conversions can also help
22 support a zero emission truck and bus market by promoting
23 installation of charging infrastructure, training for
24 fleet mechanics and other personnel, development of
25 battery technology supply chains, and other dynamics.

1 Unfortunately, hybrid conversion systems face
2 unique certification challenges, small volume conversion
3 system manufacturers may lack OBD engineering expertise
4 and may not have access to proprietary original vehicle
5 data needed to demonstrate OBD system compliance. Hybrid
6 conversion systems must also be carefully integrated with
7 the original engine in order to ensure no emission
8 increase from the original non-hybrid based vehicle.

9 This proposed regulation would address these
10 challenges by allowing a conversion system manufacturer to
11 comply with progressively more stringent certification
12 requirements over time as its volumes and engineering
13 expertise have the opportunity to grow.

14 This tiered approach mirrors existing ARB
15 certification requirements for plug-in hybrid passenger
16 car after-market conversions.

17 --o0o--

18 AIR POLLUTION SPECIALIST CALAVITA: This slide
19 summarizes this flexible approach to hybrid conversion
20 system certification requirements with preference given to
21 conversion systems capable of at least 35 miles of
22 uninterrupted all-electric range. Each conversion
23 manufacturer would have the option to meet more modest
24 tier 1 or tier 2 emission test, OBD, warranty, and other
25 requirements to allow California sale and installation of

1 the associated tier 1 or tier 2 sales volumes.

2 For example, a manufacturer just entering the
3 market with a hybrid conversion system that achieves no
4 electric range could opt to certify to tier 1 requirements
5 to enable sale of up to 10 units. Compliance with more
6 stringent tier 2 requirements would allow that
7 manufacturer to sell up to 500 units. While compliance
8 with the most stringent tier 3 final certification
9 requirements would have no associated sales volume limit.

10 The opportunity to certify a hybrid conversion
11 system to the less stringent tier 1 or tier 2 requirements
12 would sunset in 2022 conversions -- for conversion systems
13 that are not capable of 35 miles all-electric range, and
14 in 2025 for conversion systems that are capable of 35
15 miles all-electric range.

16 After these tier 1 and tier 2 sunset dates, any
17 additional hybrid conversion systems would have to meet
18 tier 3 requirements.

19 This approach is intended to enable conversion
20 manufacturers the opportunity to enter the market in the
21 near term, while requiring they meet the most robust
22 feasible OBD, warranty, and other requirements as they
23 develop the necessary engineering expertise and the market
24 has an opportunity to mature.

25 --o0o--

1 AIR POLLUTION SPECIALIST CALAVITA: That
2 concludes our presentation on staff's proposed innovative
3 technology regulation. We've received some written
4 comments regarding staff's proposal and will work with
5 stakeholders on any necessarily related 15-day changes.
6 These include the applicable hybrid conversion system
7 evaporative emission requirements, required duty-cycle and
8 performance metrics for hybrid technology emission
9 testing, and other technical details, as well as minor
10 clarifying editorial updates.

11 --o0o--

12 AIR POLLUTION SPECIALIST CALAVITA: In summary,
13 the proposed innovative technology regulation is
14 structured to encourage manufacturers to voluntarily
15 develop and certify innovative truck and bus technologies
16 by providing targeted, short-term certification
17 flexibility.

18 Staff's proposal is intended to encourage a
19 greater diversity of advanced trucks and buses -- truck
20 and bus technology potentially eligible for funding
21 programs, and enable development of more robust advanced
22 technology rule-making.

23 We believe this is a balanced approach to help
24 accelerate development and market launch of the next
25 generation of cleaner, more efficient truck and bus

1 technology that California needs to meet its air quality
2 and climate goals, while maintaining a robust and
3 effective certification process.

4 We worked closely with interested manufacturers
5 and other stakeholders in developing this proposed
6 regulation over the past 2 years, with 3 public workshops
7 and 12 technical work group meetings in forming today's
8 proposal.

9 Should the Board adopt the proposed regulation,
10 staff will also monitor its implementation, including the
11 types and volumes of technology certified, and update the
12 Board within the next 2 years.

13 So, in conclusion, we recommend the Board approve
14 the proposed innovate technology regulation for adoption,
15 and direct staff to work with stakeholders to address
16 outstanding technical issues as part of 15-day changes.

17 That concludes our presentation, and we would be
18 happy to answer any questions you may have.

19 CHAIR NICHOLS: Thank you. This is -- It's on.
20 Okay. Good morning everybody, and thank you for that
21 presentation Mr. Calavita. We have 2 witnesses who have
22 signed up to speak. But before we call on them, I just
23 want to say a word. And I apologize for having missed the
24 opening. My plane landed on time at 8:55, but that was as
25 soon as I could get up here.

1 So what I wanted to comment on, and perhaps this
2 just will underscore what was already said, is the fact
3 that this rule-making, which is a significant, though very
4 carefully tailored, change in our certification procedures
5 designed to recognize the tremendous need that we have for
6 innovation in the area of truck and bus technology, to a
7 large extent was the result of input from industry.

8 And I remember several years ago being approached
9 by one of the major manufacturers of heavy-duty vehicles
10 and engines with the suggestion that our regulations were
11 a deterrent to companies that wanted to try new things,
12 because the burden and cost of going through certification
13 was so high that people wouldn't risk it for things that
14 they thought they could prove out in real-world use, but
15 there was not ever going to be an opportunity to do that.
16 That the time that it took to do that was just too long.

17 Staff picked up on that suggestion and started
18 working on it. And this is the result, as you've just
19 heard, of this process. I suspect that there will be
20 people who think that we're still not giving them as much
21 scope as they would like, and probably others will be
22 worried that we may be losing a little bit of our control
23 over the process, and might possibly let something out
24 there into the world that wasn't as good as it would have
25 been if it had been through the -- all the stages that we

1 used to require of people.

2 My impression is that what we're doing here is
3 something that strikes a very good balance. And so I just
4 wanted to really commend the staff for doing it, because
5 it has to feel, at least in the early stages of working on
6 a project like this, that you're, you know, losing some
7 degree of control at the same time you're trying to
8 accomplish something.

9 And we -- you know, we pride ourselves on the
10 fact that we are a regulatory agency and our job obviously
11 is to protect the public health at every step of the way,
12 but at the same time we're very conscious of the fact that
13 we're in the business of promoting new and better
14 technology. So I just think it's a really noteworthy
15 product here, and I wanted to take a moment to comment
16 and -- Mr. Eisenhut, did you have your hand raised?

17 BOARD MEMBER EISENHUT: No, no.

18 CHAIR NICHOLS: Oh, okay, sorry. I thought maybe
19 you wanted to speak at this point.

20 Well, if there's no objection, we'll call the 2
21 witnesses and then we can go to Board discussion.

22 So first is Dr. Brezny from MECA. Good morning.

23 DR. BREZNY: Good morning. Morning, Chair
24 Nichols and members of the Board. I'm Rasto Brezny the
25 executive Director for the Manufacturers of Emission

1 Controls Association. And MECA represents manufacturers
2 of innovative technologies for both greenhouse gas
3 reductions, as well as criteria pollutant reductions. And
4 we have a long track record and proven track record for
5 commercializing these technologies. And we certainly
6 support this proposal and thank staff for bringing forward
7 a creative policy in order to incentivize some of these
8 innovative technologies in order to get early emission
9 reductions.

10 And I think it -- you know, when I attended the
11 first workshop that Joe held on this item, I thought this
12 was a very creative approach that could apply to other
13 areas, other policies, for example, greenhouse gas
14 reduction technologies that may deliver CO2 reductions in
15 the real world, but may not be obvious on the
16 certification cycle, and so forth. So I think this is a
17 very creative approach and I'm really glad that ARB has
18 taken this initiative.

19 So in 2013, ARB adopted voluntary low-NOx
20 standards for heavy-duty engines. And today at least one
21 manufacturer has certified a natural gas engine to these
22 very low 0.02 gram NOx levels. Because of the added
23 complexities of diesel emission controls, no diesel engine
24 has yet been certified to the 0.02 gram level. However,
25 we believe that the combination of the voluntary

1 standards, these flexibilities, and incent -- and
2 financial incentives is a multi-pronged approach that can
3 motivate engine manufacturers in order to optimize their
4 engines for meeting both greenhouse gases and criteria
5 pollutants.

6 So MECA has partnered with ARB on this test
7 program to demonstrate that diesel engines, as well as
8 natural gas engines can achieve 0.02 grams of NOx, and
9 we'll hear more about that later today.

10 But I just want to, you know, thank you for this
11 opportunity, and look forward to working with staff and --
12 as we go on through this process.

13 Thank you.

14 CHAIR NICHOLS: Thank you.

15 Mr. Lawson.

16 MR. LAWSON: Good morning. Thomas Lawson with
17 the California Natural Gas Vehicle Coalition. I just
18 wanted to add our agreement with the Chair's comments and
19 my previous colleague's comments in support of the
20 proposed regulation. We obviously are very supportive of
21 anything that ARB is proposing that's going to offer some
22 certification flexibility for technology of new engines
23 and conversions.

24 And we believe that the proposed rule is a very
25 good step forward to achieving California's air quality

1 goals, and allowing companies that are members of ours,
2 like Cummins Westport and Landi Renzo who are in the
3 business of new engine and conversions to provide
4 additional products quickly to support these goals, and we
5 appreciate staff's thoughtfulness in this regard. And we
6 look forward to working with you guys, and feel free to
7 use us as a resource in the 15-day comment period.

8 Thank you.

9 CHAIR NICHOLS: Thank you. I guess, at this
10 point, I need to close the record on this agenda item with
11 the comment that the record will be reopened when the
12 15-day notice of public availability is issued, and that
13 anyone written or oral comments received after today's
14 meeting, but before the 15-day notice, will not be
15 accepted as part of the official record on this agenda
16 item. That when the record is reopened for the 15-day
17 comment period, the public may submit written comments,
18 which will be considered and responded to in the Final
19 Statement of Reasons for the regulation.

20 So we now have a resolution before us, but I
21 should stop and just ask if any Board members have any
22 additional comments or questions?

23 Yes, Ms. Mitchell.

24 BOARD MEMBER MITCHELL: I think that this is a
25 very good idea for our agency to undertake. I don't know

1 whether it was intentional, but I see that Dr. Sherriffs
2 and myself are here at the end of the table. We both
3 represent nonattainment areas, so we're the outliers here.

4 (Laughter.)

5 BOARD MEMBER MITCHELL: But we need this kind of
6 help, because heavy-duty trucks contribute a very large
7 percentage to the air pollution in our districts, and
8 represent a very big challenge for all of us.

9 So I think flexibility in getting certification
10 is a good pathway to get where we finally need to go. And
11 I know from my discussions in the past year or so with the
12 truck manufacturers and we have -- they would like to see
13 a path developed where both low-NOx requirements and the
14 requirements of the phase 2, which federal government just
15 enacted can -- that they can coordinate those two
16 pathways. They would rather reengineer their engines only
17 once and do that at the same time.

18 We know that a low-NOx regulation is in the
19 works. Our agency will undertake that in the next few
20 years. And the South Coast Air Quality Management
21 District has petitioned the federal government to
22 undertake a low-NOx regulation as well.

23 So we have formed a coalition that's not just
24 California, but some other states across the United States
25 that are interested in low-NOx technology. So I think

1 this regulation is a good pathway to finally get us there.
2 I thank staff for putting this together. We know no
3 regulation is perfect, but this is a good way forward.

4 So thank you, staff, for doing that, and I fully
5 support this effort.

6 CHAIR NICHOLS: Would you like to move the
7 resolution?

8 BOARD MEMBER MITCHELL: I will. I'll move the
9 staff recommendation and the regulation.

10 BOARD MEMBER SHERRIFFS: And I'll second.

11 CHAIR NICHOLS: Very good. You know, people have
12 been wondering for many years now what the seating
13 arrangements at the table --

14 (Laughter.)

15 CHAIR NICHOLS: -- actually mean. And they are
16 done by the Board Clerk. As far as I know, no one has
17 ever figured out.

18 (Laughter.)

19 CHAIR NICHOLS: So you can probably imagine
20 anything you like --

21 (Laughter.)

22 CHAIR NICHOLS: -- in terms of, you know, if
23 you're sitting closer to the center, does that mean that
24 you're under more control, and that those at the end are
25 free to, you know, do whatever they want --

1 (Laughter.)

2 CHAIR NICHOLS: -- or is it -- are you in favor
3 or out of favor, but --

4 (Laughter.)

5 CHAIR NICHOLS: -- maybe some will come up with a
6 plan and be able to explain it to all of us.

7 All right. We have a motion and a second. I
8 think we should call for a vote. Oh, I'm sorry. Yes, go
9 ahead, Ms. Takvorian.

10 BOARD MEMBER TAKVORIAN: Quick question. I
11 appreciate and support the action and the rule and
12 appreciate the work that's gone into. I think it's
13 important for environmental justice communities,
14 especially those that impacted by heavy-duty vehicles, so
15 I think that's really important.

16 My question is what happens when there are green
17 lights and then new data comes available or the priorities
18 change? I'm thinking both about technology in terms of
19 green lights and the new data comes available that might
20 slow the -- might have slowed the certification process
21 down? I mean, how -- what happens for an industry that's
22 invested based on this process versus the longer term one.
23 And then the second part of the question is, and what
24 happens when our priorities change, and particularly
25 thinking about natural gas and how that is a -- an area

1 that we're examining more closely?

2 MOBILE SOURCE CONTROL DIVISION CHIEF KITOWSKI:

3 Let me start this. Your first -- the first
4 question was really -- was really about as the
5 manufacturer gets more experience as we -- as they develop
6 their technology, and it moves further along, you know,
7 what happens then? The certification requirements, the
8 flexibility requirements are designed to expire on this,
9 and that is intentional. It's designed not to be a
10 get-out-of-jail-free card on our certification
11 requirements which we count on extensively, but to provide
12 that gap that gets them to the market.

13 And then the market will demonstrate the validity
14 of the technology. Our incentive programs will help bring
15 it along. Regulatory programs may push it along. At some
16 point, they need to invest the resources to take that.
17 They've done 90 percent of the work. We've given them
18 flexibility on that last 10 percent. And then, at some
19 point, that flexibility needs to go away and they need to
20 be able to demonstrate that they're fully market capable,
21 and that we see -- we think we've struck that right
22 balance with the industry.

23 But as we go along as technology changes, the
24 really difficult part is trying to come up with a
25 regulation that anticipates technology, because people are

1 creative out there, they're clever, and so we've done our
2 best with the regulation, and especially in consulting
3 with industry. But what we completely understand is the
4 technology will evolve in ways we don't understand right
5 now. And we're prepared to monitor that, we're prepared
6 to try and be flexible, to the extent we can, within a,
7 you know, bureaucratic regulatory structure that we
8 need -- we need to have.

9 So we are prepared to -- you know, I think some
10 people asked if this could be like a living document. It
11 can't be a living document in the truest sense and be a
12 regulation. But to the extent we can, we want to have it
13 evolve with the technology.

14 BOARD MEMBER TAKVORIAN: Okay.

15 MOBILE SOURCE CONTROL DIVISION CHIEF KITOWSKI:

16 And I think the -- I think that plays -- that
17 same answer kind of plays into the second part. As we
18 move along in the dynamics of more and more engines being
19 low NOx, and zero emission -- and low NOx and advanced
20 hybrids, as we move along and we see zero emission
21 technology to playing a greater role, our priorities will
22 change, our incentive programs will change, we'll just
23 need to stay on top of that.

24 BOARD MEMBER TAKVORIAN: Yeah, so I appreciate
25 that. I think it's eyes wide open on all sides, and so

1 we're not back here in a couple of years saying, yeah, but
2 you said this was okay to move in this direction when all
3 of what you just described changes.

4 So thank you.

5 CHAIR NICHOLS: Thank you.

6 Any other comments?

7 If not, I think we can call the question

8 All in favor of Resolution 16-20, please say aye?

9 (Unanimous aye vote.)

10 CHAIR NICHOLS: Any opposed?

11 Any abstentions?

12 Great. Congratulations. Thank you.

13 This is a nice room.

14 VICE CHAIR BERG: Isn't this lovely.

15 CHAIR NICHOLS: It really is.

16 BOARD MEMBER RIORDAN: All these wonderful
17 screens.

18 CHAIR NICHOLS: Yes, very helpful. It's a -- I
19 don't know if it -- well, I'm sure it doesn't seat quite
20 as many as Byron Sher, but I like being a little closer to
21 the people.

22 BOARD MEMBER SERNA: I said earlier, it's kind of
23 like a sports bar.

24 (Laughter.)

25 CHAIR NICHOLS: Well, there's that. Maybe that's

1 what it called to mind.

2 (Laughter.)

3 BOARD MEMBER RIORDAN: And he's going to -- he's
4 going to run a couple of games everywhere.

5 CHAIR NICHOLS: Yeah, well, last night's was not
6 too exciting for us Dodgers Fans, I'm sorry to say, but oh
7 well.

8 VICE CHAIR BERG: But it gives the Cubs hope.

9 CHAIR NICHOLS: Yeah, it keeps hope alive, as
10 they say, right?

11 All right. Do we have the team assembled?

12 EXECUTIVE OFFICER COREY: We do.

13 CHAIR NICHOLS: Great. Okay. We're now moving
14 along to Agenda Item 16-9-3. And this is a report, not a
15 rule-making, on a -- on the most recent activities at the
16 federal level on heavy-duty engines and greenhouse gas
17 emissions. And I think I'm going to cut to the chase
18 here, which is that we worked hard to help make sure that
19 these rules were as progressive as they needed to be to
20 meet California's needs. We still have some concerns
21 about how the federal government is going to move forward
22 on NOx, as Ms. Mitchell previewed in her comments, because
23 we need to be moving forward on all fronts here.

24 But I think it's important that we recognize that
25 California's progressive efforts going back to the early

1 days of AB 32 have had an impact on the national program
2 here, and that we now see opportunity to really move
3 forward. So with that, Mr. Corey, would you please
4 introduce this item?

5 EXECUTIVE OFFICER COREY: Yes. Thanks, Chair.
6 And I'll be brief as well.

7 ARB staff coordinated closely with U.S. EPA and
8 NHTSA, the National Highway Traffic Safety Administration
9 staff, as the federal agencies developed the phase 2
10 standards over the last several years. The phase 2
11 standards are technology forcing, more ambitious, and
12 longer term than those of the phase 1 standards. And the
13 requirements begin with model year 2018 for trailers and
14 model year 2021 for engines and vehicles.

15 Now that the final rule for the phase 2
16 greenhouse gas emission standards has been published, ARB
17 staff is currently in the process of reviewing the
18 1,600-page plus phase 2 regulatory package. And as you'll
19 hear, staff perhaps to propose for Board consideration
20 standards -- next year standards harmonized with the
21 federal agencies on the phase 2 structure and stringency.
22 However, staff believes that there are specific areas
23 where the standard should be strengthened.

24 And as a result, staff plans to return to the
25 Board in 2017 with a California phase 2 proposal that will

1 also contain California elements. And with that, I'll ask
2 Alex Santos of the Mobile Source Control Division to give
3 the staff presentation.

4 Alex.

5 (Thereupon an overhead presentation was
6 presented as follows.)

7 AIR POLLUTION SPECIALIST SANTOS: Thank you, Mr.
8 Corey and good morning, Chair Nichols and members of the
9 Board.

10 Today's update will provide you a summary and
11 assessment of the recently finalized federal phase 2
12 greenhouse gas standards for heavy-duty vehicles. I will
13 also discuss ARB sponsored GHG-related resulted research
14 projects that will help provide the basis for further
15 heavy-duty truck GHG regulation in California.

16 --o0o--

17 AIR POLLUTION SPECIALIST SANTOS: Here is an
18 outline of my presentation. First, I will provide
19 background information on medium- and heavy-duty trucks
20 and the current GHG standards. That will be followed by
21 an overview of the federal phase 2 standards. I will also
22 discuss California's plan to adopt the phase 2 rule
23 creating a national harmonized program, and discuss
24 possible future California rule-makings that will provide
25 even more GHG reductions for targeted fleets.

1 Then I will provide a brief overview of research
2 projects ARB is sponsoring that will provide data needed
3 to support California's efforts to cut GHG emissions from
4 trucks.

5 Finally, I'll go over plan next steps.

6 --o0o--

7 AIR POLLUTION SPECIALIST SANTOS: So let me start
8 with some background. Addressing medium- and heavy-duty
9 truck emissions is essential. Such trucks account for
10 1/5th of the GHG emissions from the transportation sector
11 nationally, and are the fastest growing segment of the
12 transportation sector in both the U.S. and worldwide.

13 Similar to their contribution on a national
14 basis, medium- and heavy-duty trucks over 8,500 pounds in
15 California, emit about a fifth of the total transportation
16 GHG emissions, which is about 8 percent of the statewide
17 total. That's why setting stringent phase 2 standards is
18 so critical. Without controlling the significant source
19 adequately, it will not be possible to meet our ambitious
20 GHG targets of 40 percent below 1990 levels by 2030 and 80
21 percent below by 2050.

22 --o0o--

23 AIR POLLUTION SPECIALIST SANTOS: In 2013, ARB
24 harmonized with the federal phase 1 GHG standards for
25 heavy-duty vehicles. This harmonization, included making

1 our existing tractor-trailer GHG regulation consistent
2 with the federal program. ARB's adoption of the phase 1
3 gave manufacturers the ability to certify in California
4 and gave ARB the authority to enforce the regulatory
5 requirements.

6 The phase 1 rule was designed to get off the
7 shelf greenhouse gas emission reduction technologies on to
8 2014 model year and newer trucks. Phase 1 will reduce CO2
9 emissions in California by 12 percent in 2030.

10 --o0o--

11 AIR POLLUTION SPECIALIST SANTOS: Now, I'll move
12 on to discuss the federal phase 2 GHG standards in more
13 detail starting with an overview.

14 --o0o--

15 AIR POLLUTION SPECIALIST SANTOS: The phase 2
16 standards are the second phase of federal heavy-duty GHG
17 standards and build upon the phase 1 standards. On August
18 16th, 2016, the U.S. EPA and NHTSA released a
19 pre-publication version of the phase 2 standards. The
20 final version of the phase 2 rule, referred to as the FRM,
21 or final rule-making, will be published later this month.

22 The phase 2 standards are technology forcing,
23 affordable and flexible.

24 Nationally, phase 2 will save over 82 billion
25 gallons of fuel, cut CO2 emissions by over 1 billion

1 metric tons, and save vehicle owners 170 million[sic] in
2 fuel costs. Phase 2 will help stabilize the climate and
3 reduce our reliance on foreign oil.

4 Phase 2 will dramatically improve fuel economy
5 for heavy-duty trucks, particularly for long-haul
6 tractor-trailers, for which fuel economy will increase
7 from about 6 miles to about 9 miles per gallon.

8 All in all, the phase 2 program will represent
9 the most comprehensive medium- and heavy-duty truck
10 greenhouse gas and fuel economy program in the world.

11 --o0o--

12 AIR POLLUTION SPECIALIST SANTOS: Now getting
13 into some of the details. Like phase 1, phase 2 has
14 separate standards for the engines and the vehicles. The
15 phase 2 engine standards are expected to achieve a 5
16 percent fuel efficiency improvement beyond what phase 1
17 required for tractor engines, and 4 percent improvement
18 for vocational engines.

19 To meet the proposed engine standards,
20 manufacturers are expected to use waste heat recovery,
21 reduce parasitic losses, improve air flow handling, and
22 apply other efficiency improving technologies.

23 --o0o--

24 AIR POLLUTION SPECIALIST SANTOS: Phase 2 builds
25 on the phase 1 structure regulating line-haul and

1 vocational vehicles and large vans and pickups. Phase 2
2 introduces trailer requirements and adds provisions that
3 recognize the benefit of engine transmission integration.

4 As shown on the left, combination tractors are
5 expected to reduce GHG emissions up to 25 percent from a
6 phase 1 baseline. These reductions will come from
7 aerodynamic improvements, engine, transmission, and
8 driveline improvements, use of low -- lower rolling
9 resistant tires, and idle reduction technologies.

10 The trailers they pull are expected to reduce
11 their emissions further, up to 9 percent, primarily from
12 aerodynamic technologies and low rolling resistance tires.
13 Phase 2 marks the first time trailers are being regulated
14 at the federal level for GHG emission reduction.

15 Vocational vehicles, as shown in the center of
16 the slide, are expected to achieve up to a 24 percent
17 reduction in GHG emissions via engine and transmission
18 improvements, workday idle reduction technologies, and the
19 use of low rolling resistant tires. In addition, up to 12
20 percent of vocational vehicles are expected to use mild
21 highway technology.

22 For large pickups and vans shown on the right,
23 the phase 2 standards are expected to reduce GHG emissions
24 about 16 percent. To meet the standards, pickup and van
25 manufacturers are expected to improve engines,

1 transmissions and aerodynamics; reduce weight; and produce
2 gasoline hybrids. Phase 2 standards begin with the model
3 year 2018 for trailers and model year 2021 for engines in
4 vehicles. And ratchet down through the 2027 model year.

5 --o0o--

6 AIR POLLUTION SPECIALIST SANTOS: The phase 2
7 standards will result in fuel savings across the Board for
8 owners of tractor-trailers, vocational trucks, and large
9 pickups and vans. This fuel savings will more than offset
10 the increased cost vehicle buyers will face. This slide
11 shows expected payback time. For example, the typical
12 owner of a new combination tractor-trailer is expected to
13 recoup the extra cost of technology in 2 years through
14 fuel savings. For vocational truck and large pickup and
15 van owners, it could take a little longer, 3 to 4 years.

16 --o0o--

17 AIR POLLUTION SPECIALIST SANTOS: The U.S. EPA
18 and NHTSA received extensive comments from ARB and many
19 other stakeholders, including environmental groups, other
20 states, engine manufacturers, vehicle manufacturers, and
21 the impacted public.

22 ARB submitted comments on the Notice of Proposed
23 Rule-making, or NPRM, in October of 2015. Our 170-page
24 long package provided comments on all aspects of the
25 proposal, and was the result of a thorough assessment by

1 ARB staff's team of scientists and engineers.

2 In consideration of these comments, and the
3 newest data available, the federal agency strengthened the
4 rule to achieve 10 percent more GHG emission reductions
5 than the NPRM nationwide. I will show what this means for
6 California later in my presentation.

7 --o0o--

8 AIR POLLUTION SPECIALIST SANTOS: As I just
9 mentioned, ARB commented extensively on the phase 2
10 proposal, and a majority of our concerns were addressed in
11 the final rule. ARB commends the U.S. EPA and NHTSA for
12 establishing a technology-advancing program that will
13 achieve significant GHG emission reductions. This slide
14 lists specific areas where the FRM was strengthened in
15 response to ARB's comments:

16 The tractor engine standards were increased in
17 stringency from 4 percent in the proposal to 5 percent in
18 the final.

19 The combination tractor, vocational vehicle, and
20 trailer standards were made more stringent with the
21 biggest gain in stringency for vocational vehicles from 16
22 percent proposed to 24 percent final.

23 A new section was created in the final rule that
24 establishes PM emission standards and certification
25 requirements for APUs, which will avoid potential

1 increases in toxic diesel PM.

2 Aggressive advanced technology multipliers were
3 added per ARB's recommendation, to provide a much needed
4 incentive to vehicle manufacturers, to manufacture these
5 advanced technology vehicles.

6 And in the preamble to the FRM, U.S. EPA clearly
7 states their commitment to develop a new harmonized
8 national NOx-reduction strategy for heavy-duty on-highway
9 engines, in close coordination with ARB and others. And
10 just as a reminder in the presentation following mine, ARB
11 staff will be discussing our planned activities to address
12 NOx emissions further.

13 --o0o--

14 AIR POLLUTION SPECIALIST SANTOS: Now, I'd like
15 to discuss the projected California benefits of the phase
16 2 rule. This graph shows the projected California GHG
17 emissions from implementation of the standards, both as
18 originally proposed and as included in the final rule.

19 The black line represents the baseline heavy-duty
20 vehicle emissions from 2017 through 2050. That is the
21 emissions that would occur if there were no phase 2
22 standards. The red line, NPRM, represents annual GHG
23 emissions with the phase 2 standards as proposed by U.S.
24 EPA last year.

25 The green line, FRM, represents annual GHG

1 emissions with full implementation of the more stringent
2 final rule standards. The FRM achieves about 20 million
3 metrics tons more reductions through 2050.

4 --o0o--

5 AIR POLLUTION SPECIALIST SANTOS: So how are we
6 doing in achieving the ambitious GHG goals set by AB 32
7 and multiple Governors' executive orders? Those goals are
8 shown as red dots on this chart, which assumes equal share
9 GHG reductions from on-road sources.

10 The blue line illustrates the path we're
11 currently on, taking into account the tractor-trailer GHG
12 rule and California phase 1, as well as California's
13 existing suite of clean vehicle fuel and transportation
14 policies. Currently, we're on track to meet the 2020 GHG
15 target with a further 20 percent reduction in on-road
16 mobile source GHG emissions between 2020 and 2030 as
17 illustrated.

18 However, further reductions will be needed to
19 meet the 2030 GHG reduction target. In addition, beyond
20 2035, on-road GHG emissions begin to increase without
21 adoption of additional policies, as growth in vehicle
22 miles traveled outpaces vehicle fuel efficiency
23 improvements.

24 The red line was added to show the impact phase 2
25 will have in meeting our AB 32 targets. As you can see,

1 phase 2 gets us closer to our goals. Reducing GHG
2 emissions by 5 million metric tons in 2030, and 11 million
3 metric tons in 2050. But there's still a long way to go
4 to hit the goals, illustrating the need for further GHG
5 emission reductions from other sectors, and for the use of
6 renewable fuels.

7 --o0o--

8 AIR POLLUTION SPECIALIST SANTOS: I will now move
9 on to discuss California's plan to harmonize with the
10 federal phase 2 program.

11 --o0o--

12 AIR POLLUTION SPECIALIST SANTOS: First, we'd
13 like to commend the U.S. EPA and NHTSA for working closely
14 with us to create a phase 2 rule that we can adopt. U.S.
15 EPA Staff met with ARB staff many times over the last year
16 to discuss our comments in more detail and we appreciate
17 all the areas where they changed their proposal in
18 response to our input. The end result is a phase 2
19 program that California can adopt and that will allow
20 manufacturers to continue to build a single fleet of
21 vehicles and engines for the U.S. market.

22 Our plan is to present to the Board next October
23 a California phase 2 regulation that harmonizes with the
24 federal phase 2 program in structure, timing, and
25 stringency. This is a critical and key component of our

1 AB 32 scoping plan for meeting our GHG emission goals.

2 It also provides ARB with the ability to certify
3 engines and vehicles to the phase 2 standards and to
4 enforce the requirements in California. There will be
5 some minor distinctions between California phase 2 and the
6 federal phase 2 rules. These differences are necessary to
7 facilitate enforcement, align with existing California
8 programs, and provide additional incentives for
9 manufacturers to bring advanced technologies to the
10 market.

11 At the same time that we bring the California
12 phase 2 rule to the Board for consideration, we will also
13 be amending our existing tractor-trailer GHG rule to
14 remove redundant trailer requirements.

15 --o0o--

16 AIR POLLUTION SPECIALIST SANTOS: This slide
17 identifies the areas where California phase 2 may differ
18 from the national phase 2 rule. First, to encourage
19 advanced engine technologies, lower NOx engines, and
20 advanced technology vehicles, we may modify 2 of phase 2's
21 flexibility provisions, including the optional transition
22 flexibility for engine standards, and the vocational
23 custom chassis provisions.

24 To reason enforcement in California, California
25 phase 2 may require additional labeling requirements.

1 Other possible differences being considered include the
2 criteria used to determine whether medium-duty natural gas
3 engines are held to spark ignition or compression ignition
4 standards, and whether closed crankcases would be
5 required.

6 There could also be minor differences in the
7 credit programs. California phase 2 may include
8 additional credits for the use of low global warming
9 potential refrigerants and sunset the phase 1 credits.

10 Our plan is to vet these proposed differences
11 with affected stakeholders as we develop the California
12 phase 2 rule-making. Our first workshop is scheduled for
13 early next year.

14 --o0o--

15 AIR POLLUTION SPECIALIST SANTOS: As we were
16 working with U.S. EPA and NHTSA developing the phase 2
17 rule, it became apparent to ARB staff that further
18 aerodynamic improvements on some occasional vehicles and
19 non-box type trailers had the potential to reduce GHG
20 emissions in ways not recognized by the phase 2 program.
21 The challenge is ensuring that the aerodynamic devices are
22 only installed on vehicles and trailers that will benefit
23 from them, that is those that spend enough time at high
24 speed.

25 As we move forward, staff is considering the

1 development of targeted fleet rules that will allow us to
2 tailor requirements to those specific fleets that will
3 gain the most benefit. As shown in this slide, the first
4 California fleet rule we are considering is one that would
5 require aerodynamic equipment on nonbox-type trailers,
6 like flatbeds and tankers.

7 Currently, we're funding a study that will
8 collect tractor-trailer activity data in California. We
9 anticipate any fleet rule we develop would impact new
10 trailers only. It would not be a retrofit rule. The
11 tentative timeline for rule development is shown on the
12 slide. We expect to bring a proposal to the Board in 2018
13 or 2019.

14 --o0o--

15 AIR POLLUTION SPECIALIST SANTOS: At ARB's
16 request, U.S. EPA included credit in phase 2 for
17 installing aerodynamic devices on a few vocational
18 vehicles. However, we believe that additional GHG
19 emission reductions could be achieved as such aerodynamic
20 improvements were applied more broadly.

21 As a result, ARB is also considering requiring
22 aerodynamic equipment on certain vocational vehicles. In
23 support of this potential fleet regulation, we are
24 currently developing a scope of work to determine fleet
25 characteristics and activity of Class 4 through 6

1 vocational vehicles in California, particularly the
2 segment of the population of trucks that are driven at
3 high average speeds and could benefit aerodynamic devices
4 that reduce GHG emissions. This study will be discussed
5 further in the next slides.

6 There will be public workshop on November 1st,
7 2016 to begin discussing strategies to accelerate the
8 market for advanced clean truck technologies, as well as
9 data collection efforts to characterize vocational truck
10 fleets and identify vocational vehicles that could benefit
11 from aerodynamic improvements.

12 The tentative timeline for rule development is
13 shown on the slide. We expect to bring a proposal to the
14 Board in 2018 or 2019.

15 --o0o--

16 AIR POLLUTION SPECIALIST SANTOS: Now, I'll move
17 on to describe, in a bit more detail, some of the research
18 studies I've mentioned, as well as other projects underway
19 to support further reduction of GHG emissions from the
20 heavy-duty sector.

21 --o0o--

22 AIR POLLUTION SPECIALIST SANTOS: The first ARB
23 funded study I want to tell you about is the 390,000
24 vocational -- \$390,000 vocational aerodynamic study
25 conducted by the U.S. Department of Energy's National

1 Renewable Energy Lab, or NREL.

2 To estimate the expected benefits of several
3 common types of aerodynamic devices on select vocational
4 vehicles and trailers, NREL performed fuel consumption and
5 aerodynamic drag tests with and without aerodynamic
6 devices. Results were then used to predict expected fuel
7 savings over real-world vocational drive cycles.

8 The results are -- the results show that
9 aerodynamic devices can reduce GHG emissions up to 8
10 percent, depending on duty cycle. A draft final report is
11 available now with a final report due later this year.

12 As a follow-up to this study, ARB is planning to
13 fund a \$400,000 study to characterize vocational truck
14 fleets and driving patterns for Class 4 through 6 trucks
15 in California. This study would be jointly conducted by
16 NREL and UC Irvine. We expect this work to be completed
17 by early 2018.

18 --o0o--

19 AIR POLLUTION SPECIALIST SANTOS: Another
20 relevant study we are funding for just under a half
21 million dollars is the collection of tractor-trailer
22 activity data study currently being conducted by UC
23 Riverside CE-CERT.

24 This project will support the planned
25 tractor-trailer GHG 2 rule I discussed earlier.

1 Researchers will collect and characterize activity and
2 engine data from tractors pulling not box type trailers in
3 California. From this data, ARB staff will be able to
4 determine whether requiring aerodynamic technologies on
5 these types of trailers would result in significant GHG
6 emission reductions. This study is due to be completed by
7 June 2017.

8 --o0o--

9 AIR POLLUTION SPECIALIST SANTOS: We have four
10 other research projects underway that will help inform our
11 heavy-duty greenhouse gas work.

12 The first 2 projects will be used to further our
13 understanding of the potential to reduce greenhouse gas
14 emissions from vocational trucks. The first, "Collection
15 of Activity Data from On-Road Heavy-Duty Diesel Vehicles",
16 is primarily designed to better understand the
17 effectiveness of NOx controls on vocational vehicles.

18 However, this activity information will also be
19 germane to better understanding the potential for GHG
20 emission reductions from these vocations. About 100
21 vocational trucks will be instrumented as part of this
22 project.

23 The second project, in-use emission testing and
24 fuel usage profile of on-road heavy-duty vehicles will
25 measure the activity and emissions of about 200 vocational

1 trucks. This is a joint project funded by the South Coast
2 Air Quality Management District, California Energy
3 Commission, and SoCalGas with ARB contributing about
4 \$150,000.

5 The third project is a designed to identify
6 pathways to achieve near zero GHG emission levels from the
7 heavy-duty truck sector. It will explore policies and
8 incentives to achieve GHG emission reductions from
9 renewable feedstocks, alternative fuels and technologies,
10 and vehicle connectivity-related technologies. This study
11 is budgeted at \$500,000. And ARB staff is currently
12 reviewing proposals.

13 And finally, ARB is conducting an in-house study
14 to quantify the effect of speed on GHG emissions and the
15 potential emission benefit of vehicle speed limiters.
16 Three combination tractor-trailer rigs will be
17 instrumented and tested at speeds up to 80 miles per hour.

18 --o0o--

19 AIR POLLUTION SPECIALIST SANTOS: As you've heard
20 today, ARB has a lot going on in order to reduce GHG
21 emissions from Heavy-duty trucks. I'll wrap up today's
22 presentation with a summary of staff's next steps.

23 --o0o--

24 AIR POLLUTION SPECIALIST SANTOS: In February
25 2017, staff will hold the kick-off workshop for the

1 California phase 2 rule-making effort. About a year from
2 now, we plan on bringing this Board a California phase 2
3 proposal for your consideration and approval. We will
4 continue to explore 2 additional California fleet rules,
5 vocational vehicle aerodynamics, and tractor-trailer GHG
6 2. We plan on bringing them to the Board for
7 consideration in 2019.

8 Staff will also continue to work with U.S. EPA and
9 NHTSA in monitoring GHG emission reduction technology
10 development to continue to push for improvements in the
11 years after the phase 2 standards are implemented.

12 Finally, staff will be directing significant time
13 and resource toward the further development of lower NOx
14 on heavy-duty engines, always in consideration of the
15 impact on GHG emissions. My colleague, Daniel Hawelti,
16 will be discussing all our activities to date and our
17 plans for the future regarding NOx control in the next
18 item.

19 Thank you. We would be happy to address any
20 questions.

21 CHAIR NICHOLS: Thank you.

22 Comments, questions?

23 Yes.

24 BOARD MEMBER MITCHELL: Thank you, Madam Chair.

25 This is kind of a general question, and I preface it by

1 saying I'm not an engineer. I am, by trade, a lawyer and
2 don't know that much about these engines.

3 But as we work toward our phase 2 rule that will
4 harmonize with the federal phase 2, and we're also working
5 toward low-NOx engines as well, does one of these create
6 problems for the other of these, like what I'm indicating
7 is if we get an engine that complies with the phase 2, is
8 it likely to increase NOx, and vice versa?

9 DEPUTY EXECUTIVE OFFICER AYALA: Let me start to
10 address your question, Ms. Mitchell. We are working very
11 hard to make sure that we avoid that scenario. And one of
12 the things that we are very careful about is when you look
13 at what phase 2 is requiring, we could have gone further.
14 We could have been more stringent for sure. And one of
15 the things that we contributed in the technical process
16 working with EPA and NHTSA on is to identify where we
17 think we could go further with respect to more efficiency
18 from these future engines.

19 However, when we consider the fact that we also
20 need to lower NOx, we make sure that we have sufficient
21 head space to make sure that we can create a single
22 platform that can give us GHG as well as lower NOx
23 reductions.

24 So all of the technical work that you heard
25 about, all 6, 7 studies, as well as the technical analysis

1 that we're conducting, is predicated on making sure that
2 we can achieve a future engine that will give us both the
3 GHG and the lower NOx reductions we need.

4 We think there's no need to compromise one for
5 the other. We think that we can achieve both GHG and NOx.
6 And in the next presentation, you're going to hear a
7 little bit more about how we're approaching lower NOx to
8 get to exactly the point you're making.

9 BOARD MEMBER MITCHELL: Thank you.

10 CHAIR NICHOLS: Yes, Mr. Eisenhut.

11 BOARD MEMBER EISENHUT: Can the 177 states
12 participate in this rule-making, and if so, could you
13 describe your conversations with them?

14 DEPUTY EXECUTIVE OFFICER AYALA: Absolutely.
15 And, in fact, they have been part of our process from day
16 one. We made it a point to make sure that we facilitated
17 getting information and updates to our State partners for
18 two simple reasons. One, obviously, they are going to be
19 in need of some of the reductions that we're speaking just
20 as much as we are; and second, we need to strengthen the
21 partnership with the State. So some of the efforts that
22 we are contemplating, particularly on our lower NOx
23 standards, we are working very closely with the states,
24 and we think that we will have critical mass to
25 essentially affect the industry in a direction that will

1 give us the lower emissions that we're seeking.

2 CHAIR NICHOLS: Other comments?

3 We do have one commenter. Oh, sorry, Dr.
4 Sherriffs.

5 BOARD MEMBER SHERRIFFS: Thank you. And from
6 this end of the table, we'll keep hearing these cheers,
7 "No more NOx. No more NOx."

8 (Laughter.)

9 BOARD MEMBER SHERRIFFS: Yeah, it's a great
10 reminder. I mean these incredible changes in miles per
11 gallon, the co-benefits in terms of greenhouse gases and
12 NOx, but having to be very careful about how we actually
13 do that, and being aware of the numbers. I'm wondering in
14 terms of the research, because, for instance, on the
15 trailers, focusing on potential regulations for new
16 trailers. Well, the research may very well demonstrate,
17 you know, if there's an 8 percent decrease -- increase in
18 miles per gallon, it may be very worthwhile for people who
19 are out there to retrofit older trailers.

20 And I'm wondering how we get that information
21 out, because I know, for instance, you know, in the ag
22 world, there are various journals and so on that farmers
23 see. "Oh, gee, maybe I should try this". I'm wondering
24 how that works in this?

25 DEPUTY EXECUTIVE OFFICER AYALA: I think that is

1 a great point. We are too early in the process to know
2 the true potential of retrofitting some of these
3 technologies. You may recall that the first
4 tractor-trailer rule was essentially a retrofit rule, so
5 we have shown that it can be done successfully.

6 I think in the new rule that we're going to be
7 exploring, we certainly want to target original equipment
8 to begin the process and the transformation towards lower
9 emissions, but in that process we may very well be exactly
10 where you're suggesting, which is identifying some unique
11 opportunities.

12 And again, as Jack mentioned earlier, we have the
13 opportunity to use our incentive programs. We have an
14 opportunity to use some of our other programs to make sure
15 that to the extent that there is a potential, we're
16 certainly not closing the door on that potential.

17 CHAIR NICHOLS: Ms. Berg.

18 VICE CHAIR BERG: Thank you very much for a great
19 report. On the additional research, just really would
20 encourage -- these are great projects. I would really
21 encourage things like our in-house vehicle speed limiter
22 to reach out to industry. I'm thinking about a
23 presentation at Asilomar where one of the major truck
24 companies already has governors keeping their trucks to
25 not exceed 65 miles an hour across the -- it's a

1 nationwide program. They already have statistical data
2 showing fuel savings, safety savings. And so these
3 are somewhat anecdotal, but actually great information to
4 be able to back-up the information that you have. And it
5 is real world, and it's nice when we can take research and
6 really mesh it up to some success stories to further the
7 thoughts.

8 Thank you.

9 CHAIR NICHOLS: All right. Thank you. Okay.
10 Dr. Brezny, you're our only witness on this.

11 DR. BREZNY: Thank you again, Chair Nichols. I'm
12 still Rasto Brezny with the Manufacturers of Emission
13 Controls Association.

14 (Laughter.)

15 DR. BREZNY: I think this is an important
16 activity. MECA certainly supported the federal phase 2
17 greenhouse gas standards, and we will continue to support
18 ARB's efforts as well to align with those standards. And
19 I want to take my time to maybe address some of the
20 comments made by Board Member Mitchell around the
21 importance of aligning these standards with some of the
22 efforts that you're doing around the NOx activity.

23 And the engine and supplier industry have really
24 demonstrated a great capacity to innovate in order to
25 achieve both reductions in NOx and CO2. And just to give

1 you an example of kind of where we've come with our -- in
2 this industry is if you look back, let's say from 2002 to
3 2009 on heavy-duty trucks when on-engine controls were
4 really the main way to control NOx, then, yes, there was
5 this relationship between NOx and CO2. And as you tried
6 to reduce CO2 you ended up increasing NOx.

7 What happened in 2010 though is that SCR systems
8 were introduced into the exhaust to expand that envelope
9 of what engine manufacturers can use to achieve both
10 criteria pollutant reductions and greenhouse gases.

11 So SCR reduces NOx primarily, right? So if you
12 look at certifications -- engine certifications from 2010
13 to 2017, where we had both tighter NOx standards as well
14 as tighter greenhouse gas standards under phase 1, then
15 both pollutants were reduced simultaneously.

16 And so if we look at where we are today, today
17 there's 7 engine families that are certified as 0.1 grams
18 of NOx and below. They're achieving that. The standard
19 is still 0.2, but they're achieving 0.1 and below. Three
20 of those are as low as 0.06 grams of NOx, while still
21 achieving greenhouse gas standards. Then there's 1 engine
22 family certified today - it's a vocational engine - that's
23 achieving 0.08 grams of NOx while also the 2027 greenhouse
24 gas standards. So there's clearly evidence that, you
25 know, if there's both technologies that can reduce NOx as

1 well as greenhouse gases.

2 So as we look at the next round of heavy-duty
3 greenhouse gas standards, we need to consider that there
4 is this significant compliance margin available on NOx.
5 And if we only tighten down greenhouse gases without also
6 tightening down on NOx, then you can't take advantage and
7 get backsliding on the NOx.

8 So I think the point I want to make is that
9 there -- technologies exist to achieve both. And I think,
10 you know, both criteria pollutants and greenhouse gases,
11 and these standards -- it's important to align these
12 standards, so that the systems can be optimized once in
13 order to achieve both NOx and CO2.

14 Thank you.

15 CHAIR NICHOLS: Thank you for those very
16 encouraging remarks.

17 I might just add a few words as we're
18 transitioning from this report to the next report on the
19 NOx progress and process to say that unlike light-duty;
20 vehicles in the heavy-duty field, the relationship between
21 the federal and the State standards is a little more
22 complicated, because almost by definition the purchasers
23 are much more capable, in most instances, of ignoring
24 California's regulations if they choose to do so.

25 The reality is it's -- there's more incentive and

1 there's more opportunity to evade a California-only
2 program, which makes it more incumbent on us to have
3 standards that are worth people's while to comply with.
4 And certainly working with the 177 states is a big part of
5 that. Making sure that we're addressing both the
6 greenhouse gas and the criteria air pollutant problems is
7 also a very important part of that kind of thinking.

8 And I also think it's important that we encourage
9 and support, in every way we can, the federal government
10 in their efforts to move forward in this area. And I
11 think the combination of pressures and, frankly, praise,
12 which we have given both of, in this case have been
13 helpful in that regard, because this -- there's no place
14 else in the country that has as great a need as we do for
15 the NOx measures. And so we need the federal government
16 to be supporting us and working with us on this.

17 At the same time, the federal government
18 has -- and frankly, the industry has as much long-term
19 incentive to improve fuel economy me as we all do. So
20 this is a very interesting dynamic that we're involved in
21 here.

22 And so far, I think we've done really well in --
23 you know, you heard about, what was it, 170 pages of
24 comments that we filed in the EPA rule-making. I mean, it
25 was a very substantive contribution to the federal

1 efforts. And, you know, they really did look to
2 California to give them that support that they needed on
3 this rule-making, and we were very gratified by the
4 results.

5 So I just want to, once again, give a shout-out
6 to EPA and NHTSA for having -- for having done the right
7 thing, but understand why it is that California has to
8 keep working on these issues and can't just rest on our
9 laurels.

10 BOARD MEMBER MITCHELL: And one more item is that
11 as we anticipate the stricter ozone standards that the
12 federal government is -- has adopted, we will see, I
13 believe, more states across the nation that are going to
14 be concerned about ozone in their own states. And, of
15 course, NOx being one of the precursors for ozone, I
16 think, will be concerned about the NOx issue as well.

17 So we do thank the EPA for all the work that
18 they've done. And we're very thankful that they included
19 in their phase 2 regulation a reference to the low-NOx
20 standard. So we'll just keep working on it, won't we, Dr.
21 Sherriffs?

22 BOARD MEMBER SHERRIFFS: Absolutely.

23 (Laughter.)

24 BOARD MEMBER MITCHELL: Okay.

25 CHAIR NICHOLS: Thanks. Okay.

1 Shall we move on then to the next item.

2 The report that's Agenda Item 16-9-4. So in this
3 previous item, we learned about staff's plans form
4 harmonization with the federal phase 2 --

5 MOBILE SOURCE CONTROL DIVISION CHIEF KITOWSKI:
6 Excuse me, Chair Nichols?

7 CHAIR NICHOLS: Yes.

8 MOBILE SOURCE CONTROL DIVISION CHIEF KITOWSKI:
9 There was a resolution on --

10 CHAIR NICHOLS: There is, yes.

11 MOBILE SOURCE CONTROL DIVISION CHIEF KITOWSKI: I
12 apologize.

13 CHAIR NICHOLS: Do you need a resolution?

14 Well, I guess you want one to bring that back.
15 Okay.

16 (Laughter.)

17 CHAIR NICHOLS: You need a resolution.

18 We'll give you a resolution.

19 BOARD MEMBER SERNA: So moved.

20 BOARD MEMBER MITCHELL: Second.

21 CHAIR NICHOLS: We move a motion, a second.

22 All in favor please say aye?

23 (Unanimous aye vote.)

24 CHAIR NICHOLS: Any opposed?

25 (Laughter.)

1 CHAIR NICHOLS: Hearing none, you've got it.

2 (Laughter.)

3 CHAIR NICHOLS: Thank you. Thank you.

4 Well, it just says keep doing what you're doing.

5 (Laughter.)

6 CHAIR NICHOLS: Okay. We told you.

7 We got the Board behind you. That's a good thing
8 to do.

9 Okay. Let's move then to the report on ARB's
10 efforts here to reduce oxides of nitrogen from the same
11 types of equipment that we've just been hearing about
12 here. I think we've pretty adequately covered how
13 important this is to us, but we do want to hear more
14 specifically about what's next on the NOx front.

15 EXECUTIVE OFFICER COREY: I think we'll just go
16 right to the staff presentation, because it was teed up,
17 as you noted, very well. So this is Stan Hawelti and --
18 with the Mobile Source Control Division.

19 And, Dan, if you can give the staff presentation.

20 (Thereupon an overhead presentation was
21 presented as follows.)

22 AIR RESOURCES ENGINEER HAWELTI: Thank you, Mr.
23 Corey and good morning Chair Nichols and members of the
24 Board. Today I am here to talk to you about ARB's efforts
25 to reduce NOx emissions from heavy-duty trucks. This is

1 an extremely important issue and one on which ARB staff
2 has dedicated much of our attention and resources.

3 In fact, in the proposed 2016 State strategy for
4 the SIP, which the Board heard about last month, low-NOx
5 engines standards for heavy-duty trucks are the largest
6 proposed ARB measure for NOx. Indeed, the SIP relies on
7 heavy-duty low-NOx engines standards for over a quarter of
8 its total NOx reductions.

9 --o0o--

10 AIR RESOURCES ENGINEER HAWELTI: Here is my --
11 here is an outline of my presentation. Today, I will
12 first discuss the need for NOx reductions from on-road
13 heavy-duty vehicles followed by ARB funded heavy-duty
14 research programs and planned measures to reduce NOx
15 emissions.

16 Finally, I will provide a summary of staff's next
17 steps in our research and rule-making efforts.

18 --o0o--

19 AIR RESOURCES ENGINEER HAWELTI: California has
20 made significant progress in improving air quality.
21 However, many areas in California still do not meet the
22 2008 federal air quality standards. As shown in the top
23 map on the slide, the South Coast and San Joaquin Valley
24 air basins are the nation's only two regions classified as
25 extreme nonattainment regions for the current ozone

1 standard.

2 In the South Coast, an estimated 80 percent
3 additional NOx reductions are needed to meet the current
4 ozone standards.

5 Heavy-duty trucks are major contributors to the
6 NOx inventory, approximately a third of statewide NOx
7 emissions, or 500 tons per day, come from heavy-duty
8 trucks. Thus, we need major reductions in heavy-duty
9 truck emissions to achieve our air quality goals.

10 However, significant NOx reductions are also
11 needed by our partners in the northeast states, as well as
12 other parts of the nation.

13 U.S. EPA recently strengthened the national
14 ambient air quality standards to 70 parts per billion. As
15 shown in the lower map on this slide, more areas in
16 California as well as other states will be out of
17 compliance. Federal action to establish national
18 standards is therefore critical.

19 --o0o--

20 AIR RESOURCES ENGINEER HAWELTI: The chart shows
21 projections of heavy-duty truck NOx emissions in the South
22 Coast Air Basin and indicates the importance of federal
23 heavy-duty truck standards. As you can see the, 2010
24 heavy-duty engine standards and the fleet rules, such as
25 the truck and bus regulation, are projected to

1 dramatically reduce NOx emissions through 2023.

2 However, even such aggressive regulations will
3 not provide sufficient NOx reductions to attain federal
4 ozone standard by the time frames required.

5 About 60 percent of the truck miles traveled in
6 the South Coast are by trucks purchased outside of
7 California. These trucks are not required to meet
8 California new engine standards. That's why the emission
9 reductions we can achieve through California-only
10 standards, as shown -- shown as the yellow line, are so
11 much less than what we can achieve if standards are
12 adopted nationwide, as shown by the green line.

13 --o0o--

14 AIR RESOURCES ENGINEER HAWELTI: ARB staff have
15 been making California's needs for lower NOx standards
16 clear to U.S. EPA staff for the past several years, as we
17 have been working with them on the phase 2 greenhouse gas
18 standards, as you heard in the previous presentation.

19 As part of the phase 2 rule-making, many other
20 stakeholders similarly asked U.S. EPA to take action to
21 lower NOx standards.

22 In June of this year, the South Coast San Joaquin
23 Valley, and Bay Area air districts as well as 9 other
24 State and local air control agencies formally petitioned
25 U.S. EPA to adopt such standards.

1 As part of U.S. EPA's as final phase 2
2 rule-making U.S. EPA agreed that, "A need for additional
3 NOx reductions remains, particularly in areas of the
4 country with elevated levels of air pollution." And they
5 stated, U.S. EPA intends to work with ARB to double up
6 such new standards and other associated NOx-control
7 measures.

8 We are encouraged by U.S. EPA's commitment, and
9 look forward to working with them and other stakeholders
10 on the new national standards.

11 --o0o--

12 AIR RESOURCES ENGINEER HAWELTI: So how do we
13 address NOx from heavy-duty trucks?

14 Reducing heavy-duty NOx is key to meeting the
15 commitment of the State Implementation Plan. And, in
16 fact, the proposed SIP requires truck emissions be cut
17 about 90 percent. As we look to achieve 90 percent
18 reduction in heavy-duty NOx emissions, we're, of course,
19 looking to lower the emission standard, nominally from 0.2
20 grams per brake horsepower hour down to 0.02 grams. But
21 real-life heavy-duty emissions depend on so much more than
22 just the emissions standards.

23 Therefore, to achieve a 90 percent emissions
24 reductions, we will also need to look at other significant
25 measures, such as requiring manufacturers to build more

1 durable engines, and after-treatment systems, and
2 requiring truck owners to maintain their trucks in-use.

3 As we look at the best ways to reduce overall NOx
4 emissions, staff will consider creative solutions that go
5 beyond just requiring clean engines. No potential
6 measures or strategies are off the table at this point.
7 For example, since our attainment problems are regional in
8 nature, there may be creative regional solutions that
9 utilize advances in vehicle connectivity, such as
10 geofencing and telematics.

11 --o0o--

12 AIR RESOURCES ENGINEER HAWELTI: As depicted
13 here -- as depicted here, many programs must work together
14 to ensure that NOx emissions from trucks are controlled,
15 not only when engines are new, but also in-use. The
16 programs I'm talking about today are shown in yellow.

17 New Engine certification and durability
18 demonstrations ensure that engines are as clean as the
19 standards require when brand new and when aged out to the
20 anticipated useful life. The test cycles used during
21 certification, such as the FTP, are intended to simulate
22 how vehicles are driven in the real world.

23 In-use compliance programs, in which
24 manufacturers must test in-use vehicles during their
25 normal operation, help confirm vehicles are really as

1 clean as intended. And, if vehicles fail, they can be
2 recalled.

3 Manufacturers are required to offer warranties of
4 their emission-related parts, so that if such parts break,
5 truck owners can have them repaired at no charge to them.

6 Fuel standards ensure that fuels are available
7 that are compatible with today's advanced after-treatment.
8 Fleet rules, like the truck and bus rule, are pushing
9 fleets to turn over to newer, cleaner vehicles, and future
10 fleet rules like the advanced clean transit rule will
11 encourage use of advanced technology zero emission
12 vehicles where appropriate.

13 Finally, we are working on develop a heavy-duty
14 inspection and maintenance program analogous to the
15 light-duty smog check program, that will help ensure
16 vehicle emission control systems continue to be maintained
17 and work properly.

18 --o0o--

19 AIR RESOURCES ENGINEER HAWELTI: To support our
20 regulatory efforts going forward, ARB is currently
21 sponsoring various research programs related to heavy-duty
22 vehicle emissions. Activity and emissions data collected
23 from these programs will also be used to improve our
24 emissions inventory.

25 The research that we're funding, and conducting

1 in-house, is providing a lot of valuable information. For
2 example, recent studies have shown that engine load, and
3 how vehicles are driven, can significantly impact the
4 performance of emission after-treatment systems, and that
5 today's regulatory procedures do not adequately address
6 vehicle real-world emissions

7 Next, I will provide a brief summary of ARB's
8 heavy-duty research activities currently in progress.

9 --o0o--

10 AIR RESOURCES ENGINEER HAWELTI: The first area
11 of research is aimed at demonstrating the feasibility of
12 reducing NOx emissions from heavy-duty engines. Two
13 projects are currently in progress with the Southwest
14 Research Institute as the contractor, the Stage 1 and
15 Stage 2 low-NOx projects.

16 Stage 1 is a \$1.6 million project that involves
17 studying 2 heavy-duty engine platforms: A diesel 13 liter
18 engine and a natural gas 12 liter engine. The goal is to
19 demonstrate NOx emissions -- emission levels significantly
20 lower than the current standard with a target tailpipe NOx
21 emission rate at or below 0.02 grams per brake horsepower
22 hour.

23 In addition to maximum NOx reductions, an
24 additional goal is to achieve minimal fuel consumption.
25 Stage 1 is almost done with an expected completion date of

1 December 2016.

2 --o0o--

3 AIR RESOURCES ENGINEER HAWELTI: In Stage 1,
4 multiple technologies and strategies were evaluated, which
5 included engine calibration strategies to increase exhaust
6 gas temperatures during cold starts, and advanced
7 after-treatment systems to further reduce engine out NOx
8 emissions

9 Southwest Research Institute screened more than
10 30 potential technology configurations and determined that
11 there are multiple potential ways to achieve 90 percent or
12 more reduction in NOx emissions.

13 --o0o--

14 AIR RESOURCES ENGINEER HAWELTI: The technology
15 configurations with the highest potential to reach low-NOx
16 emissions were ranked based on NOx performance, fuel
17 consumption impact, cost, complexity, and durability.

18 Four of the top performing configurations were then
19 selected and further optimized on an engine dynamometer

20 NOx levels well below 0.02 grams per brake
21 horsepower hour were demonstrated on a technology package
22 that is now in the process of being demonstrated on aged
23 parts.

24 Final results are expected by the end of
25 November.

1 --o0o--

2 AIR RESOURCES ENGINEER HAWELTI: As a follow-up
3 Stage 1, ARB is also sponsoring a \$1 million Stage 2
4 project which the objective of further optimizing the
5 diesel engine after-treatment system for low load duty
6 cycles typical of city driving.

7 A second objective of Stage 2 is to develop a
8 supplemental low load certification cycle that will, with
9 the FTP, ensure NOx control under nearly all driving
10 conditions.

11 ARB, in partnership with U.S. EPA, the
12 Manufacturers of Emission Controls Association, or MECA,
13 and local air districts, is also planning to complement
14 the Stage 2 effort with testing on an additional engine
15 that is representative of likely future engine
16 configurations. This last planned project will flesh out
17 even further how manufacturers could meet a NOx standard
18 at or belows 0.02 grams per brake horsepower hour level.

19 --o0o--

20 AIR RESOURCES ENGINEER HAWELTI: Other research
21 activity currently underway will help improve our
22 understanding of emissions during real-world driving. As
23 listed here, we have multiple projects with both
24 universities as well as in-house studies aimed at
25 collecting activity and emissions data, and developing the

1 capability to monitor heavy-duty truck emissions at the
2 ports and other locations.

3 Results from these projects will, for example,
4 allow us to understand SCR functionality, and the low load
5 driving and why NOx emissions are higher in the real world
6 than during certification. This information is vital for
7 our planned rule development efforts.

8 --o0o--

9 AIR RESOURCES ENGINEER HAWELTI: Another area of
10 research is aimed at supporting the development of a
11 comprehensive heavy-duty inspection and maintenance
12 program. ARB is conducting an in-house study to assess
13 the durability of repairs made to heavy-duty emission
14 control systems.

15 In this project, ARB will repair high-emitting
16 vehicles and then bring these vehicles back to our lab
17 after 6 to 12 months to be retested. This will help us
18 assess the effectiveness of any required repairs, which
19 will be a key issue during the development stage of this
20 program.

21 Another project contracted to the University of
22 California, Riverside will evaluate alternative
23 approaches, technologies, and costs for development of a
24 heavy -- comprehensive heavy-duty inspection and
25 maintenance program, and pilot test the recommended

1 program design.

2 --o0o--

3 AIR RESOURCES ENGINEER HAWELTI: I have now
4 completed my description of heavy-duty related research.
5 I now would like to talk more about our planned
6 rule-making efforts that research is intended to support.

7 ARB's proposed SIP contains 2 heavy-duty NOx
8 measures, establishing low-NOx engine standards, and
9 improving in-use emissions performance, which I will --
10 which I will describe in the next few slides.

11 --o0o--

12 AIR RESOURCES ENGINEER HAWELTI: As background,
13 heavy-duty engines are currently required to meet the 2010
14 engine standards of 0.2 grams per brake horsepower hour.

15 In 2013, ARB adopted optional NOx standard that
16 are 50 percent, 75 percent, and 90 percent lower than the
17 current standard. The optional NOx standards were
18 developed to pave the way for mandatory standards by
19 encouraging the development of low-NOx engines and
20 incentivizing the purchase of these low-NOx engines.

21 To date, 2 engines have been certified to the
22 optional NOx standards. An 8.9 liter natural gas engine
23 is certified to the most stringent standard of 0.02 grams
24 per brake horsepower hour, and a 6.7 liter natural gas
25 engine is certified to 0.1 grams per brake horsepower hour

1 NOx standard. Both engines are currently commercially
2 available.

3 --o0o--

4 AIR RESOURCES ENGINEER HAWELTI: As previously
5 discussed, one of the most important measures proposed in
6 the SIP is the development of a comprehensive heavy-duty
7 low-NOx engine standard with a new low load cycle.

8 ARB staff plan to work collaboratively with U.S.
9 EPA to establish the low-NOx standard. This item is
10 scheduled for Board consideration in 2019. It's expected
11 that the standards will be phased in between 2023 and
12 2027.

13 --o0o--

14 AIR RESOURCES ENGINEER HAWELTI: In addition to
15 the low-NOx engine standard, improving in-use emissions
16 performance is also a critical strategy to meet our NOx
17 reduction goals. Rule-making's planned as part of this
18 measure include revising the warranty and useful-life
19 requirements, revising the manufacturer run in-use testing
20 protocol, and developing a new comprehensive inspection
21 and maintenance program.

22 The Board hearing dates for these measures are
23 scheduled between 2017 to 2020 with implementation between
24 2023 and 2027.

25 I will go into a little more detail on each of

1 these measures in the next few slides.

2 --o0o--

3 AIR RESOURCES ENGINEER HAWELTI: ARB is
4 considering lengthening the required warranty and useful
5 life period for heavy-duty vehicle emission control
6 systems, because the warranty and useful life periods do
7 not reflect the real-world longevity of heavy-duty
8 vehicles. For example, as shown in this chart, Class 8
9 vehicles frequently operate upwards of a million miles
10 major overhaul is needed.

11 But under ARB and U.S. EPA regulations, they are
12 required to be warrantied for only 100,000 miles and the
13 useful life overwhich manufacturers demonstrate compliance
14 with emission standards is only 435,000 miles.

15 With longer required warranty and useful life
16 periods, manufacturers would need to design more durable
17 emission control systems and components. More durable
18 components would improve the emissions performance of
19 these vehicles, and would reduce maintenance costs and
20 downtime for truck owners.

21 --o0o--

22 AIR RESOURCES ENGINEER HAWELTI: Another way we
23 encourage manufacturers to build emissions systems that
24 last is through our in-use compliance program.
25 Manufacturers must demonstrate compliance within the Not

1 to Exceed, or NTE, control area of the engine map by
2 measuring emissions on trucks as they drive.

3 However, the NTE control area includes a number
4 of conditions that exclude many operations, such as during
5 low temperature and low load. As shown in the pie chart,
6 for a typical Heave-duty vehicle only 5.8 percent of the
7 engine activity fell within the NTE protocol. This means
8 that for over 94 percent of the time this truck was
9 operating, the NTE requirements did not apply.

10 Because of these current limitations, the current
11 in-use compliance program is not adequate for ensuring
12 that emissions are controlled during the majority of
13 in-use operations, especially during low load conditions.

14 We therefore are currently considering modifying
15 the test protocol in order to more effectively cover all
16 driving conditions.

17 --o0o--

18 AIR RESOURCES ENGINEER HAWELTI: As briefly
19 mentioned earlier, a new heavy-duty inspection and
20 maintenance program is also needed to improve the emission
21 performance of heavy-duty vehicles. Just like we all take
22 our cars in periodically to be smogged -- to be smog
23 checked to make sure the emissions systems are working,
24 there is a need to ensure heavy-duty trucks' emissions
25 systems are well-maintained and functioning as originally

1 designed.

2 We are looking at I&M program designs that
3 take -- advantage of the on-board diagnostics, or OBD,
4 systems on modern trucks. There may be ways to make
5 heavy-duty inspection and maintenance extremely convenient
6 through the use of remote communications, submit real-time
7 OBD data from the vehicle to regulatory agencies.

8 The measure may require heavy-duty repair shop
9 licensing as well as licensing of mechanics for
10 competency.

11 It may also utilize remote sensing systems, such
12 as those being evaluated in the research I discussed
13 earlier, to identify high emitters and ensure
14 after-treatment systems are operating properly. This
15 program is scheduled for Board consideration in 2020.

16 --o0o--

17 AIR RESOURCES ENGINEER HAWELTI: In my
18 presentation today, I have worked through many research
19 activities and planned rule-makings, all intended to
20 better understand and control NOx emissions from
21 heavy-duty trucks. This slide summarizes staff's next
22 steps for research and for rule-making.

23 For research, the low-NOx standard State 1
24 project will be completed by December of this year, and
25 Stage 2 by the end of 2018. The heavy-duty inspection

1 maintenance and repair durability studies will be
2 completed by the end of 2017.

3 These research programs are going well, and
4 strongly support further regulatory action for heavy-duty
5 engines. For rule-making, we will be reaching out to
6 affected stakeholders to share information and get their
7 input. We will conduct our first public workshop on
8 low-NOx standards and the warranty change next month on
9 November 3rd, and we will have more workshops through
10 2019. Board dates for the various measures are scheduled
11 between 2017 through 2020.

12 The work I have described here today is expected
13 to yield benefits via cleaner trucks and cleaner air in
14 California and nationwide for decades to come.

15 Thank you. We would be happy to address any
16 questions.

17 CHAIR NICHOLS: Thank you. Are there any
18 questions before we hear from the witnesses?

19 Yes, Dr. Sherriffs.

20 BOARD MEMBER SHERRIFFS: Just a clarification.
21 There are those 2 engines that are certified to the
22 optional standards, the 8.9 liter at 0.02 and the 6.7 at
23 0.1. Are they in commercial application?

24 MOBILE SOURCE CONTROL DIVISION CHIEF KITOWSKI:

25 Yes, they are both commercially available today.

1 And as a matter of fact, the funding plan, which you're
2 going to see later on today, will be providing funding for
3 some of those engines.

4 BOARD MEMBER SHERRIFFS: Great. Thank you.

5 CHAIR NICHOLS: There's a lot going, a lot going
6 on. This is a big program. Thank you for the
7 presentation.

8 Let's hear from first, Mr. Hogo.

9 MR. HOGO: Good morning, Chair Nichols and
10 members of the Board. Henry Hogo, Assistant Deputy
11 Executive Officer with the South Coast Air Quality
12 Management District.

13 I'm here today to urge moving forward with the
14 plan measures as proposed by staff. We believe these are
15 very important and critical measures needed for the South
16 Coast region to attain air quality standards by 2031.

17 I also want to show our appreciation to the ARB
18 staff for working closely together in collaboration on
19 research and development projects over the years. And we
20 are very optimistic that all engines can meet this
21 ultra-low NOx standard based on the research that's being
22 done today. And we look forward to actually working with
23 your staff on a Stage 2 project as we move forward.

24 I also want to mention that we've been
25 sponsoring, along with the Energy Commission, and ARB has

1 been part of this work on a 12-liter natural gas engine at
2 0.02 grams, and the research then is coming along very
3 nicely. And we believe that that engine prototype will
4 actually be available sometime next year. And we hope
5 that that engine will be commercialized shortly
6 thereafter. So that is a very encouraging sign on the
7 natural gas side, and we believe diesel engines can step
8 up to that level also.

9 I also want to mention we're very optimistic on a
10 national level on our petition with U.S. EPA. And we
11 appreciate the support that the Air Resources Board have
12 shown with the petition. We've been contacted by U.S.
13 EPA, in terms of a discussion on formally moving forward
14 with a response to the petition, and is a very positive,
15 at least indication from EPA, that they will move forward
16 with some form of rule-making shortly.

17 And so with that, I just want to say we look
18 forward to working with your staff as you move forward
19 with developing the new emission standards, and also the
20 in-use performance standards are absolutely critical in
21 order to make sure that the emissions do not degrade. So
22 thank you.

23 CHAIR NICHOLS: Thank you. Thanks for the role
24 that your district has played in helping to fund and test
25 out all these new technologies.

1 MR. HOGO: Thank you.

2 CHAIR NICHOLS: It's a great partnership.

3 Okay. Now, we hear from Mr. Miller.

4 Yes.

5 MR. MILLER: Good morning, Chair Nichols and
6 Board Members. My name is Chris Miller. I am the
7 executive director of the Advanced Engine Systems
8 Institute, also known as AESI. It's a trade association
9 that advocates on behalf of its members that make criteria
10 and greenhouse gas emissions control technologies.

11 My members supply and work our customers, the
12 truck and engine and vehicle manufacturers, to provide
13 clean, affordable, and efficient technologies that reduce
14 air pollution, and help achieve compliance with the most
15 stringent air quality standards in the world.

16 As you know, better than most, these protective
17 standards are key to making our cities and communities
18 livable, and a healthy engines of strong economic growth.
19 As you've heard, numerous cities, states, and air quality
20 management entities across the country have joined in
21 support of the petitions to EPA and by San Joaquin Valley
22 APCD, and South Coast for a national standard to reduce
23 NOx emissions from heavy-duty trucks to 0.02 grams per
24 brake horsepower hour a 90 percent reduction.

25 The support for a new more stringent standard has

1 come from various places around the country, including the
2 northeast, the mid-Atlantic, and the ozone transport
3 region, and elsewhere. Those areas have made it clear
4 publicly, in our many conversations with them, that they
5 needed significant additional NOx reductions from
6 heavy-duty on-road vehicles soon to achieve ozone
7 attainment deadlines.

8 San Joaquin and South Coast have also pointed out
9 that a California-only standard is insufficient to meet
10 their requirements under the attainment deadlines.

11 The petitions and their supporters have also
12 expressed the view that regulations should align, or
13 harmonize, the implementation of the heavy-duty phase 2
14 greenhouse gas standards with a new ultra-low NOx
15 standard, so that engine makers can simultaneously
16 optimize for reductions in both pollutants.

17 As the Board may know, and as my colleague, Dr.
18 Brezny pointed out, the introduction of SCR technology in
19 2010 allows the co-optimization of fuel economy and NOx
20 emissions. There no longer needs to be the CO2-NOx
21 tradeoff, because designers can consider the powertrain or
22 the whole vehicle, and take greater advantage of SCR's
23 effectiveness.

24 This technology is an example of the tremendous
25 capacity that the supplier industry has to innovate

1 working with the OEMs to achieve stringent regulatory
2 targets.

3 We are confident, given the results of the
4 research thus far and the suite of engines already being
5 certified for 2016 and 2017 at very low levels, that the
6 0.02 standard is one that we innovate to meet or
7 outperform with a good margin and in a very cost-effective
8 manner.

9 The 0.02 standard will require an evolution in
10 control technologies, not a revolution. The cost of the
11 improved technologies likely to be in the \$500 to \$1,000
12 range when added to a new compliant heavy-duty vehicle.

13 From an air quality manager's point of view, that
14 ballpark at about 37 -- 3,750 per ton of NOx removed.
15 Most managers that we talked to consider that to be very
16 attractive and substantially less in dollar terms than
17 many of the stationary source controls that might
18 otherwise have to be employed.

19 Thank you very much

20 (Laughter.)

21 CHAIR NICHOLS: Perfect. Well done.

22 And we hear once again from Dr. Rasto Brezny, who
23 does not need to identify himself again.

24 DR. BREZNY: Thank you, again. I guess this is
25 my hat trick boring hearing.

1 So -- and this -- there are a number of important
2 items to our industry and that's why I feel compelled to
3 contribute, but -- and participate. But, you know, I
4 think California put out the optional standards, the
5 voluntary NOx standards. And that's a good start. But
6 nothing motivates the industry and engine manufacturers to
7 work together to achieve these goals than a mandatory
8 standard.

9 So I'm really glad that ARB is now in the process
10 of doing that. And we certainly support your efforts and
11 we'll support the federal efforts as well to turn this
12 into a national standard. And to kind of emphasize the
13 importance of this on a national level, MECA did some
14 moves modeling, emissions inventory modeling of what a
15 0.02 gram heavy-duty NOx standard would look like across
16 the country outside of California.

17 And we estimate that that would reduce NOx from
18 heavy-duty engines by over 750 tons per day, which is a
19 huge inventory benefit to areas like the northeast, the
20 mid-Atlantic, and midwest, and so forth that are
21 struggling with ozone.

22 So another way we've been supporting ARB's
23 efforts is through the low-NOx test program, which we
24 heard about from staff. And our members have provided
25 over a dozen different systems into this program in order

1 to demonstrate that the technology can achieve the
2 optional low NOx 0.02 gram level.

3 And what's interesting is that over 40 to 50
4 percent of that reduction was achieved simply by improved
5 calibration of the engine with no new additional hardware
6 required. So we almost got half of the way there just
7 through that.

8 And then, you know, some of the technologies that
9 our members have provided really represent a evolution of
10 existing technologies that are on the road today. So
11 we're talking about improved substrates, improved
12 catalysts, bringing the SCR closer to the engine by
13 putting it right on the diesel particulate filter in order
14 to allow it to warm up sooner, improved urea injection
15 strategies so that ammonia can be delivered to the SCR
16 catalyst at a lower temperature, so that it not only
17 benefits cold start, but it also benefits low temperature
18 operation. And that's why MECA will be partnering again
19 with ARB on the Stage 2 program to address the challenges
20 that vocational engines have at low speeds and low loads.

21 So the emphasis I want to highlight that all
22 these evolutions have occurred since 2010 on SCR systems,
23 and at the same time the systems that we have on the road
24 today are 60 percent smaller, 40 percent lighter, and 30
25 percent cheaper than what we had in 2010.

1 And so there's a lot of evolution that's gone on
2 already, and I think that's going to continue in order to
3 achieve these 0.02 gram levels. So I want to echo the
4 numbers that my colleague Chris Miller mentioned, that we
5 believe that this can be done on the order of \$500 to
6 \$1,000 per truck on what we have, in addition to what we
7 already have on the trucks today.

8 So it's not a revolutionary redesign of the
9 entire system. It's really just improvements. And a lot
10 of these improvement are already on light-duty vehicles in
11 Europe. So it's just bringing them over to the heavy-duty
12 sector

13 CHAIR NICHOLS: So I'm going to ask you a
14 question, which I realize calls for speculation --

15 (Laughter.)

16 CHAIR NICHOLS: -- but one of the things that we
17 have found with our efforts with the heavy-duty sector in
18 the past is that there seem to be ways that owners and
19 operators of vehicles can, I'll just say, interfere with
20 their emissions performance, perhaps deliberately, maybe
21 not, but in any event, that they don't always meet the
22 standard that they were designed to meet, even with very
23 good, durable, well-designed technologies.

24 Is there anything out there in the works or
25 anything that would help give us some indication that

1 there's a way to deal with that issue?

2 DR. BREZNY: Well, I think, you know, ARB staff
3 is addressing those issues. And we certainly -- there's a
4 number of MECA members that develop OBD sensors. So the
5 OBD system is one obvious way to help alert operators that
6 things aren't working quite right. And then the
7 heavy-duty inspection and maintenance, I think, is an
8 important effort to bring those requirements down to match
9 the technologies that are in trucks -- on trucks today.
10 And I think it needs -- you know, once California has kind
11 of defined what this might look like, I think it's going
12 to be a model for the rest of the country in order to help
13 other states in establishing heavy-duty IM programs.

14 CHAIR NICHOLS: Great. Thank you.

15 DR. BREZNY: So I think it's a process, but, you
16 know, there's -- before -- you know, although light-duty
17 vehicles, passenger cars, have had catalysts on them for,
18 you know, 40 years, you know, heavy-duty trucks have only
19 had them really since 2007. So there's a lot of learning,
20 not just, you know, for the -- I mean, for the industry,
21 but also for the owners, in order to understand how do
22 these -- how do these system -- what's needed to maintain
23 these systems, so --

24 CHAIR NICHOLS: That's very helpful. Thank you.

25 DR. BREZNY: Thank you.

1 CHAIR NICHOLS: We do have one more witness who
2 signed up. John Boesel.

3 MR. BOESEL: Madam Chair and other members of the
4 Board, thank you for this opportunity. I -- we also --

5 (Thereupon the timer beeped.)

6 MR. BOESEL: Wow.

7 (Laughter.)

8 MR. BOESEL: Okay.

9 CHAIR NICHOLS: That's it.

10 (Laughter.)

11 MR. BOESEL: Thank you very much.

12 (Laughter.)

13 MR. BOESEL: I think this is a very interesting
14 and exciting area for regulation and also for technology
15 innovation. We've been very impressed by the state of
16 innovation and the way the industry is rising to this
17 challenge. It's very impressive that there already is
18 this certified ultra low-NOx engine available, two of
19 them.

20 I think Cummins Westport will soon have the 12
21 liter available, which particularly here in the San
22 Joaquin Valley, I think that engine size will be able to
23 really address a much larger segment for the industry
24 here.

25 The economics of natural gas are looking very

1 promising, and I think there's also going to be some
2 really interesting synergy with the passage of Senate Bill
3 1383 and methane -- and the control of methane emissions,
4 and the opportunity to really start moving ahead with
5 renewable natural gas and bringing that into the
6 transportation sector.

7 So I think that the way the Board is moving ahead
8 now, and we'll hear the motion later on, about providing
9 incentive funding to get these ultra-low NOx engines into
10 the marketplace, I think that's really important to help
11 play that early role in building confidence with the
12 fleets to understand that this technology works, it is
13 reliable, and that's where incentive funding is going to
14 be important to move that forward.

15 So a very important area, and I -- I'm just
16 encourage by the state of play that we see among our 160
17 member companies to develop the innovations, develop the
18 technology, and make this viable.

19 CHAIR NICHOLS: Thank you.

20 This one does not have a resolution.

21 Just checking.

22 (Laughter.)

23 CHAIR NICHOLS: Thank you. Okay. Very good.

24 Thanks for the report. Thanks for again the encouraging
25 news and collaborations that are afoot. It's really great

1 to hear. And obviously, all of this is critical for the
2 place where we are today, the San Joaquin Valley, where
3 even more than elsewhere, the State transportation is a
4 critical element in the air quality problems that are
5 experienced here, and that is the next item that we're
6 taking up.

7 So we'll have a brief shifting of personnel here.
8 Thank you, Mr. Hawelti, and talk about the particulate
9 matter SIP of the San Joaquin Valley.

10 This is the right place to be to be hearing this
11 item, and --

12 CHIEF COUNSEL PETER: Chair Nichols?

13 CHAIR NICHOLS: Yes.

14 CHIEF COUNSEL PETER: The court reporter would
15 like a 5-minute break.

16 CHAIR NICHOLS: I'm sorry.

17 VICE CHAIR BERG: Five minute break.

18 CHAIR NICHOLS: Okay. I didn't hear you. Yes,
19 let us take a break then. Five minutes enough?

20 THE COURT REPORTER: (Nods head.)

21 CHAIR NICHOLS: Okay. We'll take a 5-minute
22 break. Thanks, everybody.

23 (Off record: 11:15 a.m.)

24 (Thereupon a recess was taken.)

25 (On record: 11:30 a.m.)

1 CHAIR NICHOLS: Let's reconvene. It was a long 5
2 minutes, but we've been having some good conversations
3 here on the side. So I'll welcome everybody back.

4 This meeting will come to order eventually.

5 Yeah, I need that. Okay. I don't have a gavel.
6 I need a gavel of my very own.

7 BOARD MEMBER SERNA: Have a gavel, will travel.

8 CHAIR NICHOLS: Exactly. Exactly.

9 Okay. We're moving on to the reason why we're
10 here today, actually in particular, which is the matter of
11 consideration of the 2016 particulate matter SIP for the
12 San Joaquin Valley. And before we take up the staff
13 report on this item, I would be remiss if I didn't thank
14 Dr. Sherriffs who not only serves on our Board, but serves
15 on the San Joaquin Valley Board, and who, I think, ought
16 to at least be allowed a few minutes of introduction here
17 before we take up this item.

18 BOARD MEMBER SHERRIFFS: Thank you for that.
19 Yeah, I'm the homeboy. This is my neighborhood.

20 (Laughter.)

21 BOARD MEMBER SHERRIFFS: And welcome to my
22 neighborhood. And I really do want to thank everybody for
23 coming and thank Seyed and the Air District for helping
24 out make this possible.

25 You know, I think it's a great example. You

1 know, we get to see some faces we don't usually see.
2 Sacramento is a long way away when people testify. And
3 it's great for the Board to have an opportunity to go to
4 different districts and get input from people who may have
5 much more difficulty coming to Sacramento to testify,
6 although we always welcome written comments.

7 But it's also an example, I think, of our Board
8 making its best decisions when we get that broad input.
9 And another example of that was the opportunity by coming
10 here that Board members had yesterday to tour and learn
11 more about biomass industry issues, and also to tour with
12 the dairy industry looking at methane digesters. And I
13 think that kind of depth of understanding leads to much
14 better decisions from here.

15 So again thanking all. And I do have to shout
16 out Kevin Abernathy with Dairy Cares for his organization
17 of the tour with the dairy yesterday. I think we all
18 found it very, very helpful, very enlightening.

19 So thank you all for coming and...

20 CHAIR NICHOLS: Thank you so much, and for the
21 warm welcome we've received here. We are grateful. I'm
22 really sorry I personally wasn't able to attend the tour
23 yesterday because biomass is going to be a topic of
24 conversation --

25 BOARD MEMBER SHERRIFFS: I have 83 pictures that

1 I could --

2 (Laughter.)

3 CHAIR NICHOLS: You can send them to me as a
4 file.

5 BOARD MEMBER RIORDAN: Madam Chair, if I might?

6 CHAIR NICHOLS: Yes.

7 BOARD MEMBER RIORDAN: I echo the great
8 opportunity that we had yesterday, and as well today, to
9 meet with this district's residents and -- but yesterday,
10 the tour that Kevin arranged through with Dr. Sherriffs
11 was very valuable. And he just said to me, as I thanked
12 him again for that opportunity, that he would make that
13 available again for Board members that weren't able to go.
14 Timing was critical. Sometimes flight patterns are very
15 difficult for people to get to Fresno at the right time,
16 because there's a limited number of planes. And so he's
17 made that offer, and I would encourage everybody to take
18 that offer --

19 CHAIR NICHOLS: Thank you.

20 BOARD MEMBER RIORDAN: -- and with him.

21 CHAIR NICHOLS: Thank you so much.

22 If there are people in the audience here who have
23 not signed up to testify and who are planning to testify,
24 or think they're going to testify, I would really
25 encourage you to put your name on the list, because we

1 need to organize our time here to make sure that we have
2 enough time and, that we can, if at all possible, consider
3 this entire item as a package before we take a lunch
4 break.

5 So now, I think we should probably begin.

6 Mr. Corey, would you introduce this item?

7 EXECUTIVE OFFICER COREY: Yes, Chair Nichols.

8 And the Clean Air Act sets out a step-wise
9 planning process for developing PM 2.5 State
10 Implementation Plans. This process starts with a moderate
11 area SIP with an initial attainment deadline within 6
12 years. If the attainment within this time frame is
13 impractical, EPA classifies the area as serious, and
14 requires a second SIP that must show attainment within 10
15 years.

16 PM2.5 levels in the valley have shown overall
17 improvement since 2001. However, weather conditions
18 associated with the recent California drought held up
19 progress towards attainment. These drought-impacted PM2.5
20 concentrations make it infeasible for the valley to attain
21 the 12 microgram per cubic meter annual standard by 2021
22 moderate area deadline.

23 The 2016 PM2.5 SIP was therefore developed to
24 fulfill the first step established in the Clean Air Act
25 planning process. The plan includes an impracticality

1 demonstration and a request to be classified as a serious
2 nonattainment area.

3 Looking beyond today's item, ARB staff is working
4 with the San Joaquin Valley Air District on evaluating the
5 region's attainment needs. Today's presentation will
6 explore the nature of the Valley's PM2.5 problem and
7 contributing sources, setting the stage for your
8 consideration of a serious area attainment plan next year.

9 I'll now ask Webster Tasat, Manager of the
10 Central Valley Air Quality Planning Section in the Air
11 Quality Planning and Science Division to get the staff
12 presentation.

13 Webster.

14 (Thereupon an overhead presentation was
15 presented as follows.)

16 AQPSD CENTRAL VALLEY AIR QUALITY PLANNING SECTION
17 MANAGER TASAT: Thank you, Mr. Corey. Good morning, Chair
18 Nichols and members of the Board.

19 --o0o--

20 AQPSD CENTRAL VALLEY AIR QUALITY PLANNING SECTION
21 MANAGER TASAT: Meeting PM2.5 standards over the next
22 decade is the valley's most critical air quality
23 challenge. In today's presentation, I'll begin with an
24 overview of the approach for defining a comprehensive
25 attainment strategy for the region that staff and the Air

1 District will be working on over the next 12 months.

2 Next, I'll discuss the SIP before you today and
3 the role it plays in this broader planning process. The
4 focus of the remaining presentation will then look at the
5 nature of PM2.5 in the valley and how this science is
6 informing the strategies that will be needed.

7 Finally, I'll highlight several broad new
8 initiatives that are supporting the valley's
9 transformation to a cleaner, more sustainable future.

10 --o0o--

11 AQPSD CENTRAL VALLEY AIR QUALITY PLANNING SECTION
12 MANAGER TASAT: I'll start with an overview of the
13 valley's path to attainment and how today's SIP gets into
14 the Clean Air Act's planning framework.

15 --o0o--

16 AQPSD CENTRAL VALLEY AIR QUALITY PLANNING SECTION
17 MANAGER TASAT: The Clean Air Act sets out requirements
18 for establishing air quality standards as well as the
19 plans for meeting them. EPA is also required to
20 periodically review standards to ensure they remain
21 protective of public health. Based on this review, EPA
22 has established increasingly health protected PM2.5
23 standards.

24 This includes both a daily standard to protect
25 against short-term exposure, and an annual standard to

1 address chronic health effects. Over the next decade, the
2 valley must meet the daily standard of 35 micrograms per
3 cubic meter, the original standard of 15 micrograms per
4 cubic meter, and the most recent revision, which lowered
5 the annual standard to 12 micrograms per cubic meter.

6 Rather than individual strategies for each
7 standard, we are working to develop a comprehensive
8 strategy on an accelerated schedule addressing all of
9 these standards. This will build on current progress.

10 For example, annual levels have dropped over 15
11 percent since 2001, and peak daily levels have decreased
12 25 percent. The Clean Air Act's health-based air quality
13 standard's meaningful deadlines and requirements for a
14 comprehensive plans have been the tool for achieving this
15 air quality success. The Act's flexibility to tailor
16 control strategies to best fit California's needs also
17 provides an effective framework for future planning.

18 The valley's PM2.5 attainment strategy will need
19 to include both regulatory efforts and incentive programs
20 reflecting comprehensive actions by both ARB and the
21 district. Work has already begun to identify key sources
22 and the types of strategies will be needed as I'll
23 highlight today.

24 Over the next year, this information will provide
25 the basis for developing specific regulations and other

1 actions that will be required to achieve healthy air.
2 Development of the strategy must also include a robust
3 public process to engage all valley stakeholders. ARB
4 staff are committed to working with the district to
5 initiate the public process as soon as possible

6 --o0o--

7 AQPSD CENTRAL VALLEY AIR QUALITY PLANNING SECTION
8 MANAGER TASAT: As we continue to work on the
9 comprehensive attainment strategy, there are also interim
10 requirements for individual standards. The proposed
11 action today addresses that interim step for the most
12 recent annual standard of 12 micrograms.

13 Under the Clean Air Act, areas with more severe
14 air quality are provided more time to attain, along with
15 more stringent control requirements. However, unlike
16 ozone, which sets specific attainment deadlines before the
17 planning process begins, establishing an appropriate
18 attainment date for PM2.5 is a step-wise process, which
19 begins with preparation of a moderate plan.

20 The moderate SIP must include all controls that
21 can be implemented within a 60-year time frame, and an
22 evaluation of whether they can provide for attainment by
23 2021. If a longer time frame is necessary to implement
24 strategies to achieve the needed reductions, a second SIP
25 is required demonstrating how the area will meet the

1 standard by the serious area deadline of 2025.

2 Today's SIP represents the first step required
3 under the Act's phased planning process. The moderate SIP
4 was approved by the district board last month.

5 --o0o--

6 AQPSD CENTRAL VALLEY AIR QUALITY PLANNING SECTION
7 MANAGER TASAT: Between now and 2021, ARB and the district
8 will continue to implement an aggressive suite of control
9 programs that provide significant reductions. For
10 example, the truck and bus regulation is a key program to
11 reduce NOx and diesel PM emissions. The regulation
12 represents a multi-year effort to turnover the legacy
13 fleet with nearly all trucks meeting a 2010 engine
14 standard by 2023.

15 For PM2.5, the district's wood-burning
16 curtailment rule and Burn Cleaner Program to reduce
17 wood-burning devices -- to replace wood-burning devices
18 with cleaner units are providing ongoing PM2.5 benefits.

19 Incentive programs are also enhancing the
20 transformation toward cleaner technologies. Since 2009,
21 over \$400 million in private and public funding have been
22 invested in the replacement of older agricultural tractors
23 with newer, cleaner models. By 2021, ARB and the district
24 control programs will reduce NOx by nearly 40 percent and
25 PM2.5 by over 5 percent.

1 the Clean Air Act planning process, and sets the stage for
2 a broader, multi-standard strategy development. The SIP
3 includes a request that EPA classify the San Joaquin
4 Valley as serious with an attainment deadline of 2025.

5 The SIP also includes all requirements for a
6 moderate area, including assessment of controls, and
7 elements that ensure ongoing progress, including
8 reasonably available control measures, reasonable further
9 progress, and contingency measures.

10 --o0o--

11 AQPSD CENTRAL VALLEY AIR QUALITY PLANNING SECTION
12 MANAGER TASAT: As we move forward on the next step, I'll
13 highlight how our understanding of the nature of PM2.5 in
14 the valley is informing strategy development.

15 --o0o--

16 AQPSD CENTRAL VALLEY AIR QUALITY PLANNING SECTION
17 MANAGER TASAT: As I mentioned earlier, over the next
18 decade, the valley must meet a suite of PM2.5 standards.
19 Actions to address these standards are interrelated, and
20 therefore an integrated strategy provides for more
21 efficient planning and progress towards attainment.

22 An integrated strategy must consider the multiple
23 source types that contribute to both daily and annual
24 PM2.5 levels, as well as sources that contribute at
25 different times of the year.

1 Specific measures will be identified as part of
2 the planning process based on continuing modeling,
3 analysis, technology assessments, and stakeholder input.
4 However, in today's presentation, I'll highlight the key
5 sources that contribute to PM2.5 in the valley and
6 potential strategies for each source.

7 --o0o--

8 AQPSD CENTRAL VALLEY AIR QUALITY PLANNING SECTION
9 MANAGER TASAT: Defining an effective strategy begins with
10 understanding the nature and magnitude of the challenge.
11 The valley's topography and weather patterns are
12 especially conducive to the formation and accumulation of
13 PM2.5. Mountain ranges on the east and west sides of the
14 valley and the Tehachapi mountains to the south trap air
15 pollution year round.

16 During the winter, long periods without rainfall
17 coupled with cool temperatures and stagnant winds lead to
18 PM2.5 levels that build over days to weeks. While these
19 factors produce elevated concentrations valley-wide, the
20 highest PM2.5 concentrations are typically measured in the
21 central and southern portions of the valley, as
22 illustrated in the map on the right.

23 --o0o--

24 AQPSD CENTRAL VALLEY AIR QUALITY PLANNING SECTION
25 MANAGER TASAT: Weather conditions and seasonal emission

1 activities also lead to PM2.5 levels that vary throughout
2 the year. The graph on the right illustrates monthly
3 average PM2.5 concentrations in Bakersfield, the area with
4 the highest levels.

5 While PM2.5 concentrations are highest during the
6 winter months, almost every month has average
7 concentrations above the 12 microgram annual standard.

8 Meeting this standard therefore requires a
9 year-round strategy with controls on the specific sources
10 that contribute in each season. I'll describe how we
11 identified these sources and associated strategies in the
12 next series of slides.

13 --o0o--

14 AQPSD CENTRAL VALLEY AIR QUALITY PLANNING SECTION
15 MANAGER TASAT: Let's start by looking at the winter
16 months of November through February highlighted in purple
17 in the graph on the left. Ambient PM2.5 levels are made
18 up of many constituents that can be either directly
19 emitted, such as soot and dust, or formed through
20 reactions of NOx, SOx, and ammonia.

21 Routine measurements of these constituents are
22 made at 4 sites in the valley, supplemented with more
23 extensive measurements during intensive field studies.

24 Examining the makeup of PM2.5 at different times
25 of the year helps determine contributing sources and

1 identify effective control approaches. The pie chart on
2 the right shows the average contribution of different
3 constituents to wintertime PM2.5 levels in Bakersfield.

4 Ammonium nitrate, shown in red, and carbon shown
5 in blue, are the two largest contributors. Together, they
6 comprise nearly 80 percent of measured PM2.5, and thus
7 both must be reduced to lower wintertime PM levels.

8 --o0o--

9 AQPSD CENTRAL VALLEY AIR QUALITY PLANNING SECTION
10 MANAGER TASAT: So what are strategy approaches for
11 ammonium nitrate?

12 Ammonium nitrate is a secondary pollutant which
13 formed -- forms through the reaction of NOx with ammonia.
14 Extensive studies conducted in the valley demonstrate that
15 controlling NOx is the most effective way to reduce
16 ammonium nitrate.

17 Mobile sources comprise over 80 percent of NOx
18 emissions in the valley, thus measures in ARB's Mobile
19 Source Strategy will be the foundation for the cleaner
20 technologies needed for attainment.

21 Key measures include the new low-NOx standard for
22 heavy-duty trucks, as you just heard in the prior item,
23 requirements for more stringent locomotive engine
24 standards and specifications for low-emission diesel fuel.
25 Incentive programs will also be critical for accelerating

1 the pace of cleaner technologies within the 2025 time
2 frame.

3 The low carbon transportation funding you will
4 hear about next is one such program, but meeting the
5 valley's needs will require looking beyond current State
6 funding mechanisms. The San Joaquin Valley and South
7 Coast boards have already be gun working together to
8 develop funding plans to meet the combined needs of both
9 regions.

10 --o0o--

11 AQPSD CENTRAL VALLEY AIR QUALITY PLANNING SECTION
12 MANAGER TASAT: Wintertime PM2.5 is also made up of large
13 amounts of carbon combustion particles, as shown in the
14 blue slice. Chemical markers that are unique to different
15 sources are used to identify the sources of these
16 particles. These markers demonstrate that both wood
17 burning and commercial cooking operations are significant
18 contributors, as well as diesel PM for mobile sources. In
19 designing the control strategy, it is important to know
20 that reducing these directly emitted particles is up to 10
21 times more effective in reducing PM than controlling NOx.

22 Strategies for these combustion sources will need
23 to consider the stringency and effective implementation of
24 the district's wood burning curtailment program and
25 continue an expansion of incentive programs to replace

1 AQPSD CENTRAL VALLEY AIR QUALITY PLANNING SECTION
2 MANAGER TASAT: The contribution of fugitive dust to PM2.5
3 has typically been small. However, with longer air
4 pollution episodes, drier soil conditions associated with
5 the drought, and an increase in fallow fields, fugitive
6 dust levels have increased in recent years.

7 Reducing PM2.5 concentrations in the summer and
8 fall will therefore require evaluation of opportunities to
9 reduce dust emissions from a variety of sources, including
10 paved and unpaved roads, agricultural operations, and
11 construction areas.

12 --o0o--

13 AQPSD CENTRAL VALLEY AIR QUALITY PLANNING SECTION
14 MANAGER TASAT: Reducing PM2.5 in the summer and fall will
15 also need to include strategies for other constituents.
16 Mobile source NOx reductions provide year round benefits
17 for ammonium nitrate. The same is true for strategies to
18 reduce combustion particles from commercial cooking and
19 diesel PM.

20 Other more seasonal strategies, however, include
21 contributions from managed burning and biogenic emissions
22 that form secondary organic aerosols.

23 Implementation of the district's smoke management
24 program helps minimize the impacts of burning, but efforts
25 to continue to develop non-burning alternatives for waste

1 residues will also be important. Addressing ammonium
2 sulfate will be more challenging as the sources are
3 smaller and more widely distributed, but the attainment
4 strategy should evaluate potential opportunities for
5 further reductions.

6 --o0o--

7 AQPSD CENTRAL VALLEY AIR QUALITY PLANNING SECTION
8 MANAGER TASAT: In addition to the specific strategies I
9 just discussed, there are a number of new valley
10 initiatives that will provide broad environmental benefits
11 improving PM2.5 and ozone levels, as well as reducing
12 greenhouse gases.

13 These initiatives support the valley's transition
14 to more sustainable development, greener technologies, and
15 beneficial use of the valley's biomass resources. The
16 next few slides briefly highlight a few of these programs.

17 --o0o--

18 AQPSD CENTRAL VALLEY AIR QUALITY PLANNING SECTION
19 MANAGER TASAT: The Transformative Climate Communities
20 Program recently signed by Governor Brown provides grants
21 to fund neighborhood level planning that includes projects
22 to address climate change and provide other
23 community-scale benefits, particularly for disadvantaged
24 communities.

25 Under the program, \$70 million was recently

1 proposed for Fresno and will be invested in numerous
2 projects that will help reduce emissions through regional
3 transportation development and by encouraging the use of
4 public transit and other modes of transportation. This is
5 an exciting opportunity for the city, and can be the
6 foundation for long-term transformation and development.

7 --o0o--

8 AQPSD CENTRAL VALLEY AIR QUALITY PLANNING SECTION
9 MANAGER TASAT: ARB will also be partnering with multiple
10 stakeholders to develop both short-term and long-term
11 strategies for transitioning away from biomass combustion
12 to more efficient and cleaner technologies and disposal
13 methods.

14 A biomass utilization action plan will explore
15 the opportunities to better utilize biomass for composting
16 and generating renewable fuels in bioenergy, both
17 agricultural and forest biomass.

18 This effort, led by Board Member Florez, will
19 include a biomass summit planned for next spring. The
20 first of several comprehensive planning meetings took
21 place just yesterday in Bakersfield. The initial focus of
22 this effort will be on developing near-term solutions for
23 alternatives to agricultural burning in the San Joaquin
24 Valley.

25 --o0o--

1 AQPSD CENTRAL VALLEY AIR QUALITY PLANNING SECTION
2 MANAGER TASAT: The increased use of renewable natural gas
3 also has the potential to provide significant benefits in
4 the valley. Actions include a number of pilot projects to
5 demonstrate the viability of producing renewable natural
6 from agricultural, forestry, and other biomass waste
7 streams.

8 Renewable natural gas can displace fossil fuels
9 and use organic waste from a variety of sources including
10 landfills, wastewater treatment plants, and livestock
11 operations.

12 For example, a major biogas project deriving
13 energy from dairy waste is currently in operation in
14 Tulare County. Efforts to bring pipeline distribution of
15 renewable natural gas to rural residents in the valley
16 could also provide opportunities for meeting home heating
17 needs through a cleaner fuel source.

18 --o0o--

19 AQPSD CENTRAL VALLEY AIR QUALITY PLANNING SECTION
20 MANAGER TASAT: Over the next year, ARB will be working
21 with the district to develop specific measures as part of
22 an integrated attainment strategy. The strategy will need
23 to reflect a comprehensive portfolio of actions targeting
24 the diversity of sources that contribute to PM2.5
25 throughout the year.

1 The actions and cleaner technologies that will be
2 needed are already underway. ARB staff will be holding
3 the first workshop on development of the low-NOx truck
4 standard next month, and EPA has signaled their intent to
5 work with ARB on a harmonized national approach.

6 Cleaner wood-stove standards established by EPA
7 will be in place by 2020, and research projects are
8 underway to demonstrate new methods for controlling
9 emissions from commercial restaurants.

10 At the same time, incentive programs and broad
11 initiatives such as the Transformative Climate
12 Communities, are integrating efforts to support both air
13 quality and climate goals.

14 Combined, ARB and district action will be
15 essential in achieving healthful air. ARB rule-making
16 over the next few years, as outlined in the Mobile Source
17 Strategy, will establish requirements for cleaner engine
18 standards and zero emission technologies.

19 Incentive programs will need to complement these
20 efforts by accelerating the deployment of cleaner
21 technologies to meet PM2.5 attainment time frames.
22 District actions must consider strategies for sources
23 under local jurisdictions, such as wood burning and
24 fugitive dust, along with strong partnership with ARB in
25 implementing incentive programs.

1 --o0o--

2 AQPSD CENTRAL VALLEY AIR QUALITY PLANNING SECTION

3 MANAGER TASAT: In closing, staff will continue working
4 with the district on an accelerated schedule for
5 development of a comprehensive attainment strategy for the
6 valley that we will bring back for your consideration next
7 fall. This will include initiation of a public process to
8 actively involve all valley stakeholders.

9 Staff also recommends approval of the moderate
10 PM2.5 SIP for the 12 microgram standard as required under
11 the Clean Air Act to address the first step in the
12 planning process.

13 This concludes my presentation, and we would be
14 happy to answer any questions you might have.

15 CHAIR NICHOLS: I think we should probably hear
16 next from the district, and then we can have our
17 questions.

18 MR. SADREDIN: We accommodate short people here.

19 (Laughter.)

20 CHAIR NICHOLS: I need one of those.

21 BOARD MEMBER RIORDAN: We should have one.

22 MR. SADREDIN: Thank you, Madam chair, members of
23 the Board. Let me also officially welcome you on behalf
24 of the Air Board here, valley residents to be here in San
25 Joaquin Valley. Thank you for being here. Please come

1 back again. We really value our partnership. The great
2 work that you do for us, both in terms of holding our feet
3 to the fire to do everything possible within our means,
4 and then doing everything that you can to make sure we
5 save lives in San Joaquin Valley.

6 Your work over the years to save lives in San
7 Joaquin Valley does not go unnoticed, and there has been a
8 lot of progress that we are grateful because of your
9 assistance.

10 I also wanted to specifically thank Richard Corey
11 for always paying attention to our needs, all of my
12 colleagues through CAPCOA, the California Air Pollution
13 Control Offices Association. We really appreciate the
14 time and devotion that he has shown in understanding our
15 issues and helping us move forward with all the things
16 that we need to do.

17 Now, with respect to the Item that is before us
18 today, if you could put the PowerPoint up.

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

21 MR. SADREDIN: Thank you.

22 This item, by the way, was unanimously approved
23 by the Board. Dr. Sherriffs was there. It came with a --
24 together with -- after a lengthy public process, a number
25 of public hearings, public meetings, where everyone's

1 input was taken into account. And at the final hearing
2 last month, my friends from the environmental advocacy
3 groups were here, and no one had any opposition.

4 They did not even ask for a delay, because
5 sometimes my friends there -- but when they cannot come up
6 with a specific objection that they have, they say, well,
7 let's just delay it and think about it some more. At that
8 meeting, there was no objection to the plan, and there was
9 no ask for delay.

10 Now, this plan that is before you, as your staff
11 very well articulated, a big part of it is a demonstration
12 that attainment is impracticable. That's the legal
13 requirement.

14 We also have to show that we have Reasonably
15 Available Control Technology. As you know, both the
16 district and you, we have been in a perpetual planning
17 mode for PM. And EPA just last year made a ruling that we
18 have Reasonable Available Control Technology. In fact, we
19 have Best Available Control Measures, which -- or
20 so-called BACM, that go well beyond reasonable control
21 technology.

22 In my opinion, this is a bureaucratic process
23 that we have to go through. And I'm hoping today, we
24 don't spend a lot of time on that part of it. I want to
25 show you some charts that deal with the impracticability

1 issue, but my hope is that we can spend a lot of our time
2 today on doing things that actually save lives in San
3 Joaquin Valley, reduce air pollution, moving forward to
4 actually get some things done.

5 --o0o--

6 MR. SADREDIN: So with that, let me just show you
7 this chart. The bar to the left is the baseline inventory
8 where we are, 2021 is where we're going to be with all the
9 measures that you have put in place, and all the things
10 that we're doing locally.

11 As you can see, the orange part, which is the
12 stationary source emissions make up only 15 percent of the
13 total pollution, and that is all of agriculture, all of
14 oil industry, operations, dairies, every business that you
15 can think of in San Joaquin Valley. That's the total air
16 pollution that we get from stationary sources. As you can
17 see, trucks are a big part of our inventory. Over 85
18 percent of the pollution comes from mobile sources. And
19 as you can tell, not only it's impracticable, it's really
20 physically impossible to show attainment by 2021.

21 And that red bar is where we need to go to reduce
22 air pollution, NOx emissions. To show attainment, as you
23 can tell, if I eliminated all of our stationary sources in
24 San Joaquin Valley, we're not going to be able to attain.
25 If you eliminated all the trucks, we're not going to be

1 able to meet the standard. We need a lot of reductions in
2 emissions from all source categories.

3 --o0o--

4 MR. SADREDIN: Now, if you approve this item that
5 is before you, and we send it to EPA, then the deadline of
6 2025 is not a lot easier. But at this point, we're not
7 ready to raise the white flag and say it's impossible. I
8 think we have to do everything we can to see if we can.
9 But there are some people that say even 2025 might be
10 impossible, but we have high hopes that we can get there.
11 As your staff said, technology might be there. The
12 infrastructure needs a lot of work to be able to get to
13 zero emissions.

14 But basically, for the valley to meet the
15 standard, we need to get to a point of zero emissions from
16 fossil fuel combustion.

17 Now, I'm not talking about banning fossil fuel
18 combustion, but we need the technologies where we can get
19 to pretty low emissions from fossil fuel combustion. So
20 hopefully that's very clear that, you know, this is not an
21 unnecessary delay.

22 For the ozone, for instance, EPA has already put
23 implementation rules in place that says if you are an
24 extreme non-attainment for a much easier standard, when
25 they publish the tougher standards, you, by default, are

1 considered to be extreme for the more difficult standard.

2 Here, the valley has already been designated as
3 serious nonattainment for the 1997 standard, serious
4 nonattainment for the 2006 standard, and really to spend a
5 lot of time to prove the obvious that, oh, by the way, we
6 also should be serious for the much tougher standard. To
7 me, you know, that -- we should not spend a lot of our
8 time, you know, wasting in that regard.

9 --o0o--

10 MR. SADREDIN: Now, I just wanted to bring to
11 your attention some of our timelines that we're dealing
12 with. As I talked to Kurt Karperos, Richard Corey, I've
13 complained that I -- sometimes I feel that EP -- that ARB
14 sometimes does not pay enough attention to what we need in
15 San Joaquin Valley. There's a lot of focus on South
16 Coast's timelines, the ozone timelines.

17 And they said here is your opportunity to get the
18 Board to really see what you're dealing with. So I just
19 wanted, just by way of background, give you just a quick
20 list of what are the standards that we're facing, what are
21 the timelines.

22 The 1-hour ozone standard, I think that is a
23 great indicator of what might be achievable and what we
24 really can do. If you recall, just a few short years ago,
25 we were extreme nonattainment for the 1-hour ozone

1 standard. At that time, we thought it was impossible to
2 meet the 1-hour ozone standard.

3 Earlier this year, EPA, after having 4 years
4 of -- 4 consecutive years of no violations, finally deemed
5 the valley to be in attainment. Thank you for all the
6 help that you gave us. And we are the first region in the
7 world that has gone from extreme nonattainment to actually
8 reach attainment. And that's what gives us hope that, you
9 know, maybe some of what looks impossible for PM, maybe
10 I'll be here, or somebody else younger than me will be
11 here, in a few short years and tell you, remember, say I
12 told you it's physically impossible. Look, we're there.
13 We're in attainment. So we want to, you know, look with
14 that many optimistic perspective.

15 We are on track to also meet the 1997 ozone
16 standard, 84 parts per billion. That was another standard
17 that we extreme non-attainment. We had the black box. We
18 could not identify how to get the reductions. Today, we
19 have no black box. We are on track. If you stay the
20 course with the mobile source reductions that EPA -- ARB
21 has in place, we will reach attainment before the 2023
22 deadline with no black box.

23 We just submitted the plan that your Board
24 approved and sent to EPA that the 75 parts per billion
25 standard we're going to meet it on a timely fashion in

1 2031.

2 So when it comes to ozone, there is a lot of
3 progress that has been made. We are seeing clearer
4 improvement in ozone levels and that's a good story with
5 respect to ozone. The 70 parts per billion we're doing
6 the modeling. EPA has not published the implementation
7 rule, but we're going to need massive reductions for the
8 70 parts per billion. But some of the early indications
9 by ARB is that once you reach 75 parts per billion, it's
10 downhill and it will be a lot easier to get into the 70,
11 so that's what we're hoping for.

12 --o0o--

13 MR. SADREDIN: Now, the tough problem in San
14 Joaquin Valley, and that's the part that I believe ARB
15 maybe needs to pay a little bit more attention to is our
16 challenges with respect to PM2.5. I don't have to tell
17 you -- I wish Dr. Balmes was here, PM2.5, as you know, is
18 a lot more dangerous to your health. We lose a lot of
19 lives every year through premature death with PM2.5. Not
20 as much with ozone, but PM2.5 is a much more severe
21 problem, much more costly problem with respect to public
22 health.

23 We have a 1997 standard, a 24-hour standard, of
24 65 micrograms per cubic meter. We were on the verge of
25 meeting that standard in 2012 before the drought kicked

1 in. Then we got huge numbers up and down the State. As
2 you know, even Bay Area had nonattainment numbers, and a
3 lot of other areas. We were no -- we were not spurred
4 from that.

5 We had a little bit of a mishap with EPA, first
6 approving an extension, and then failing to act. So they
7 retroactively gave us a deadline this year of December
8 2015 for meeting that standard. So unless we could put a
9 time machine in our black box, there is no way to meet
10 that standard, but because they -- you know, at least with
11 that timeline 2015.

12 Right now, we have to send -- work with your
13 staff and send EPA a 5 percent plan. We are -- I think we
14 can do that. We have a couple of years where we're at 4.8
15 percent reductions per year. I think we're going to be in
16 attainment of that standard in 3, 4 years at the most, but
17 we need to be able to put together a 5 percent plan.
18 We're at 4.8 percent.

19 The reason I mention is that you've heard us
20 complain when, you know, there are rules perhaps for
21 climate change that maybe add a little bit to our NOx
22 inventory, and we say, hey, we're extreme nonattainment.
23 We're serious nonattainment. We cannot afford any NOx
24 increase. We're basically at 4.8 percent. Any small
25 increase in emissions would kick us over that 5 percent.

1 So we think we can put a 5 percent plan together and send
2 it to EPA in a few short months.

3 The 2006 standard, which is 35 micrograms per
4 cubic meter. That requires almost as much reductions in
5 emissions as does the standard that is before you today,
6 the 2012 standard. The plan -- the attainment deadline is
7 2019. And as you know, to show attainment, when they say
8 the deadline is 2019, you need 3 years of clean data. So
9 2019 really means 2017.

10 So the plan is due 2017, and we have to be in
11 attainment immediately, because you need all of those
12 reductions in 2017 to show attainment with a 35 percent
13 plan. We're hoping to be able to put a plan together to
14 do that. It's going to be very difficult at this point.
15 Just look at the measure that you have in place already.
16 The truck rule, the off-road rule, they will not be fully
17 implemented till 2023.

18 So to even, without those, measures be in
19 attainment in 2017 through 2019 may not be possible, but
20 you know, we're going to give it a good shot and see what
21 we can put together.

22 And then the plan that's before you today, I
23 already talked about the -- you know, the attainment
24 deadline is 2021. If you approve the action today and EPA
25 ultimately approves it, then the deadline is extended to

1 2025, which really means 2023. Twenty-three, 24, 25, you
2 have to have 3 years of clean data, clean air to show
3 attainment.

4 --o0o--

5 MR. SADREDIN: Before I get into now -- so that's
6 all I have to say in terms of, you know, what -- how
7 difficult the problem is. I want to talk a little bit now
8 about what we're hoping to do, what is our ask of you,
9 what is -- what we're going to do locally, and what we're
10 hoping the federal government can do to reach attainment.

11 Here -- here's the chart just since 2000. And if
12 you go back further, there's even greater reductions that
13 have been made. As you can see, hundreds of tons of NOx
14 have been reduced in San Joaquin Valley. The dotted line
15 shows where we think we're going to be with respect to the
16 regulatory measures that are in the hopper and will kick
17 in in that time.

18 As you can see, we're still short about 150 tons
19 or so from meeting the standard. And that last 150-plus
20 ton is a lot harder to achieve than the six, seven, eight
21 hundred tons of emissions, where we had a lot of
22 low-hanging fruit that we could get to.

23 --o0o--

24 MR. SADREDIN: Now, we need transformative
25 control measures. Despite major reductions in emissions,

1 it's impossible to reach attainment without transformative
2 measures. We not only need the technology, we need the
3 infrastructure. We need to get to low emissions, no
4 emissions, combustion devices, transportation technology
5 to get to the standards that we need, but we need 90
6 percent reductions basically by 2025 to meet the latest
7 PM2.5 standard.

8 And as your staff said, most of those reductions
9 have to come from mobile sources, which unfortunately we
10 don't have regulatory authority over. The district has
11 put together indirect source review rule. The only air
12 district in the State that has that.

13 I was talking to my friends in South Coast.
14 They're trying to see if they can do something similar to
15 that in that region. We're doing what we can through
16 incentive-based measures to indirectly reduce air
17 pollution from mobile sources, but we need your help,
18 EPA's help to reduce mobile sources a lot further.

19 Now, as we move forward, we need to leave no
20 stone unturned at the local level, at the State level, at
21 the federal level to reduce emissions from all sectors of
22 our economy. And we also need incentive-based strategies
23 to be able to get those reductions in a timely fashion.

24 I just want to list some of the things that we're
25 doing locally, then I'll talk about the federal

1 expectations that we have, and then I'll finish with what
2 we're hoping to get from your board and from the State.

3 --o0o--

4 MR. SADREDIN: At the district, we have our full
5 commitment, my Board's commitment that we will leave no
6 stone unturned in identifying every possible reductions in
7 the stationary source emissions that we can get. And by
8 that I mean manufacturing, agriculture, all the sources
9 that we have regulatory authority over.

10 But unfortunately, as you saw, the total
11 inventory is 15 percent. If we go crazy, we might be able
12 to get another ton or two with some, you know, very
13 draconian measures that we can put in place. But as you
14 know, we need hundreds of tons of emissions, and 1 or 2
15 tons from a stationary source is not going to -- not going
16 to get there.

17 We're going to do -- fully investigate
18 opportunities to reduce directly emitted PM2.5 from all
19 sources that we can think of, agriculture, fireplaces,
20 incentive programs. But there is a lot of science that
21 needs to be pursued in that area, both in terms of the
22 inventory, in terms of the modeling. You know, you see it
23 maybe dust from almond harvesting. Is it really PM10? Is
24 it PM35? Does it settle? Is it really a big contributor
25 to our PM2.5? There are a number of unanswered questions

1 that we need to answer and then take action to reduce
2 those emissions.

3 Our board has already approved the Healthy Soil
4 Initiative, where we will do our best to not only capture
5 carbon, help with the climate change efforts that we
6 support, but also improve, per the activity of the farmers
7 by increasing the carbon content of the soil. We know it
8 works for some crops and not for all others. There are
9 some water quality issues, as you know, bury some of that
10 carbon back into the soil, and what does it do to water
11 quality?

12 So we have to look at it from all perspectives,
13 but we're committed to work with our agricultural industry
14 here to find every opportunity possible to promote Healthy
15 Soils Initiative that will reduce emissions, reduce NOx
16 emissions, reduce carbon emissions, and make farmers more
17 productive.

18 Conservation management practices. We have a
19 very successful program, where it acknowledges that the
20 variation that various farms and crops face in San Joaquin
21 Valley and gives them opportunities to tailor control
22 measures to reduce pollution most effectively from them.
23 We have learned quite a bit from that process. We're
24 going to engage our farmers and find any available
25 opportunity to find conservation management practices that

1 further reduce particulate matter -- directly emitted
2 particulate matter, but also something that the farmers
3 can do effectively -- cost effectively and with
4 technological feasibility.

5 As your staff mentioned, we have spent a lot of
6 money, and we're trying to find a way to get a few more
7 ounces of reductions in emissions from char-broilers, the
8 under-fired char-broilers. And it's been very difficult,
9 but, you know, we're still working on that, but we're
10 leaving no stone unturned.

11 This measure if we're very successful after
12 spending millions of dollars we will get perhaps a 0.1 or
13 0.2 tons of PM reductions, but we're working on it.

14 And then funding. In a minute, I will talk about
15 what our funding hopes are at the State and federal level,
16 but at the district we will also explore any potential
17 opportunities for securing funding at the local level.
18 DMV funding, my board, the only air board in the air
19 district voted for extra DMV funds. Unfortunately, those
20 funds in the State will sunset in 2024, because when
21 Senator Florez gave us the authority to impose those DMV
22 dollars at the time, we were looking at the standard
23 that -- extreme ozone standard. The deadline was 2024,
24 thought that's it.

25 But as you know, we got, you know, 5 new

1 standards since then. So I'll be going to my board to ask
2 for legislation or support for legislation to extend that
3 authority. And hopefully, we'll get legislative support
4 to continue bringing those resources. I saw it not only
5 reduces emissions by impacting the design of development,
6 but also brings in funding. We have worked very hard with
7 developers to even go beyond ISR and have them put
8 mitigation measures, high-speed rail for instance.

9 We had concerns about the construction phase
10 emissions. They've agreed to contribute \$30 million to
11 reduce pollution from construction phase of these
12 measures.

13 So these are just some of the measures that we're
14 looking at, but we're continually looking at other
15 opportunities, and would welcome your help and your
16 guidance on what more we can do.

17 --o0o--

18 MR. SADREDIN: The federal government, as you
19 heard, we have filed a petition to ask EPA to establish a
20 national standard for heavy-duty engines. South Coast has
21 done the same. Our petition goes a bit further. We ask
22 also for controls on locomotives. They make up 10 percent
23 of our air pollution in San Joaquin Valley. I know ARB is
24 doing some inventory work maybe to impact -- it is a
25 little bit lower than previously estimated, but still

1 every ounce of NOx emissions counts.

2 We are asking EPA to not only do new standards
3 for new locomotives, but also for remanufactured
4 locomotives and for in-use locomotives. And this is an
5 area that even ARB says you don't have the full authority.
6 We appreciate what you tried to do with the MOU with the
7 railroads. We supported that. We still want to help
8 whatever opportunities are there. But given that we have
9 to address all pollution sources, we're hoping for your
10 support on the locomotives.

11 We had a call this morning with a few of the
12 other stakeholders that have signed on with -- on these
13 petitions. When it comes to locomotives, there is a bit
14 of a fracture in the coalition. Some of the industry
15 groups, for instance CCEEB, they have indicated that since
16 they have railroads as their members, they may not be
17 supportive of the locomotive controls. So we really need
18 your stature, your support for everything that we can do
19 to also pressure EPA to do locomotive controls.

20 And then funding. If you really care about
21 public health, if you really want to get to clean air as
22 quickly as possible, you should be supportive of
23 incentive-based control measures. Let's say we were
24 extremely successful, and tomorrow EPA says, oh, great,
25 we're going to do national standards for locomotives, for

1 trucks, and we have it next month.

2 Unfortunately, waiting for the natural
3 attrition to get to the reductions that we need will be
4 way too late. These locomotives, these trucks last 20,
5 30, 40 years as you know. So even if the regulation is
6 there, which we think needs to be there to force people to
7 take advantage of incentives, we need funding.

8 South Coast has come forward with a funding plan.
9 We had a board-to-board meeting, South Coast and San
10 Joaquin, not too long ago. We're trying to work together
11 to not only advocate for the funds that are needed, but
12 also see how we can pool our resources. There are some of
13 these trucks, locomotives that travel both regions, can we
14 work together, share our resources, and reduce pollution
15 more effectively?

16 And then finally, we need your help and we need
17 EPA to update their policies to allow for incentive-based
18 reductions to be used. I think we have come a long ways.
19 And without it, there's no way that we can put an
20 approvable SIP that gets us to the attainment.

21 And then finally, just a list of demands or hopes
22 and wishes from you, that I will finish a couple of slides
23 here.

24 First, I have to tell you as a local air
25 pollution control office, and sometimes when I talk to my

1 colleagues, sometimes we get a little bit anxious, a
2 little bit worried that is ARB still caring about the SIP
3 needs, and, you know, doing what it takes with respect to
4 reducing criteria pollutants and toxic emissions.

5 I heard Senator Florez a few months ago says
6 let's save up lives in California, and not before we save
7 the world, or something to that effect.

8 Now, I don't think those are two mutually
9 exclusive objectives. We applaud you for taking
10 leadership globally to reduce climate change impact, and
11 do what you can to get other, you know, nations and other
12 states even within the United States to come on board. So
13 we support all of those measures. But I think we have to
14 do it in a way that also takes full advantage of the
15 co-benefits that we talk about. It cannot just be a lip
16 service that we will just get co-benefits or an
17 afterthought. It has to be something that is really part
18 of our ARB's strategy.

19 And I have a couple of specific suggestions here.
20 You saw your staff's presentation before this, when we
21 were talking about the NOx emissions and from trucks 2025
22 to 2021 timelines that we're looking at with respect to PM
23 was not a big focus of that. We were looking at ozone
24 emissions to pass through 2031. We'll be looking at, you
25 know, some of the climate change goals in 2030, 2050.

1 I have to tell you, you know, last year, when the
2 legislature unfortunately was not able to, you know, pass
3 those goals to reduce gasoline usage by 50 percent. As
4 ambitious as that was, and they were not to do it, it fell
5 way short of what we need and way too late, even if they
6 were able to do it.

7 2050, 50 percent reduction in gasoline usage. It
8 sounds like, "Oh, my God", you know, what -- it's
9 minuscule in terms of what we need and when we need it.
10 So I'm hoping today after you approve the bureaucratic
11 part of this to say all right, let's send this plan and
12 let's go to work on reducing air pollution. You also
13 direct your staff and take a position to come back with a
14 couple of new proposals.

15 One is, let's re-examine the -- your Mobile
16 Source Strategy. I know it's been folded into the SIP
17 strategy, but that Mobile Source Strategy looks at 2031
18 and beyond. Let's take a close look at 2025. If at the
19 end of the day, you say, well, there's nothing possible in
20 that timeline, you know -- I'm not going to say we can
21 fully understand that, but, you know, it would be -- it
22 would be something good to take to the public when we tell
23 them the valley now cannot meet the standards in 2025.
24 We're going to be subject to devastating federal
25 sanctions. We need to be able to make a showing that ARB,

1 the district, EPA we gave it our full effort to get all
2 the reductions that we can.

3 But right now, 2025 was only a word on a slide
4 when the -- when the item came before your Board, and I
5 complained about that. And here's my opportunity, I'm
6 taking advantage of your advice, Richard, and Kurt to make
7 sure your Board --

8 (Laughter.)

9 MR. SADREDIN: -- full appreciates the 2025 is a
10 real timeline that you really need to look at and pay some
11 attention to.

12 Now, we've talked about super pollutants, and,
13 you know, short-lived pollutants. I think that provides
14 the greatest opportunity for harmonizing criteria
15 pollutant, toxic pollutant objectives with the climate
16 change strategies.

17 Of course, the real super-pollutant, as you've
18 heard from, you know, Dr. Sherriffs and Supervisor
19 Mitchell -- or Board Member Mitchell is for us in South
20 Coast and San Joaquin it's NOx. That's the
21 super-pollutant. So we want to make sure we don't lose
22 the focus on reducing NOx.

23 It should not be a struggle for us to convince
24 people that in an area that is extreme nonattainment for
25 ozone, serious nonattainment for PM don't resort to

1 oxidizing methane as a control measure for climate change.

2 And oxidizing is a fancy term that people use,
3 but we're talking about incinerating methane. Flaring
4 methane generates NOx, generates PM. We should not do
5 that. I know people have come to us, and I know Aliso
6 Canyon is a big problem big disaster down there that we
7 don't want to -- we want to make sure we do things so it
8 doesn't happen, we want to mitigate its emissions, but
9 let's be careful with not setting in place reactionary
10 policies that have unintended consequences.

11 We have been approached by some that say they
12 want to come to the valley to mitigate emissions, the
13 methane emissions in response to Aliso Canyon. And they
14 want to -- they said the cheapest way, the easiest way to
15 do it is come here and burn methane.

16 That's not something that we would welcome. As
17 you know, I've always asked you to bring dollars to the
18 valley, spend them here, but this is not the kind of
19 investment that we need in San Joaquin Valley. Come in
20 here and burning methane, or writing a rule later on that
21 forces the dairies to flare their methane is not -- you
22 know, is not good for us.

23 The best way to deal with methane would be to
24 capture it, send it back to pipelines that will reduce
25 methane emissions. Like make it a renewable fuel will

1 reduce black carbon. Black carbon is where we think you
2 need to go, where we need to go to reduce emissions.
3 Let's open the door to spending Prop 1b dollars on clean
4 diesel engines right now. We're not able to do that.
5 Let's force the 0.02 standard through incentives. We're
6 getting some support on doing that.

7 The ag burning, we definitely don't want to be in
8 a position where we don't have options. Let's help us.
9 And thank you, Senator Florez, for the meeting yesterday
10 for setting us on track to find alternatives to avoid open
11 burning. So I'll stop preaching there. I'll move on.

12 And then one last comment, don't go too far on
13 relaxing the portable engine rule. Your staff is
14 currently working on rolling back the portable engine rule
15 and we understand that. Some of the technologies that we
16 have hoped for that would be available now or next year,
17 they're not available. So we're not saying well, right,
18 maintain a rule that is impossible to comply, but we have
19 been talking to your staff. We're moving in the right
20 direction. I think we're going to be able to get -- come
21 to your Board and support that rule.

22 It still needs a little bit more attention to the
23 NOx needs. It should not -- I think it should only allow
24 the time that's needed for this technology to be -- to
25 come about and then require it as quickly as possible. I

1 know your staff is trying to be responsive to the industry
2 needs. And, you know, we're sensitive to that, but we
3 cannot allow anymore reduction -- increases in -- or hold
4 back reductions in emissions from that source category
5 beyond what is needed to just -- for the technology to
6 come about.

7 So don't wait too long. Don't give them too much
8 time to maintain those engines -- cleaner engines once
9 those clean engines are available. Right now, we're not
10 quite there. We're getting a good response from your
11 staff. I think they understand our concerns, and I'm
12 hoping that we can get there.

13 --o0o--

14 MR. SADREDIN: And then finally, funding is a
15 big -- as we've said is essential. If you care about
16 public health, there's no way to achieve the public health
17 goals without funding. We ask you to continue to use the
18 CalEnviroScreen to target funding in areas that have air
19 quality issues, and have a whole host of other problems.
20 And I think this -- and also, we don't object to Bay Area
21 getting some funding to the extent that some of the
22 pollution from the Bay Area impacts us. And if we can
23 reduce those --

24 BOARD MEMBER GIOIA: Vice versa.

25 (Laughter.)

1 MR. SADREDIN: Or vice versa, yes.

2 If we can help, you know -- so I'm not saying
3 give -- you know, there is a lot that be could done in
4 Sacramento, in Bay Area, because we do transport back and
5 forth, and we can help reach other. So I'm not saying
6 don't give money to Bay Area, but the focus should be
7 disadvantage communities, which unfortunately we have
8 quite a few in areas that are nonattainment.

9 Work with us. Hopefully, you can do some
10 advocacy at the federal level to -- and hopefully at the
11 State level through education to bring about some
12 additional funding. The cap-and-trade funding even if
13 it -- even if all the original big estimations stand true
14 is not going to be enough. We need more dollars, more
15 funding. ARB should get more funding for air quality as
16 opposed to all these other agencies that right now some of
17 the cap-and-trade funding goes.

18 But let's also look at finding -- finding more
19 sources. Technology advancement, we already have a big
20 working group at EPA on yourself to advance technology,
21 but that's really the key, and then finally recognize the
22 valley's need for near zero emissions. Because of the
23 timeline that we're talking about, the geography of having
24 to be able to have a truck climb the Grape Vine and go 200
25 miles, it may not be doable in the timeline that we're

1 talking about with electric vehicles, electric trucks.

2 So near-zero emissions, natural gas in
3 particular, we want a little bit more openness to using
4 natural gas. We think it can be a great bridge to
5 renewable natural gas.

6 And with that, I thank you for the time that you
7 gave me. And if you have any questions or comments, I'll
8 be here.

9 Thank you.

10 CHAIR NICHOLS: I'm sure we will want to talk to
11 you further, but I think we should probably move on at
12 this point. That was quite a tour de force actually. You
13 covered a lot of ground.

14 And I think it's easy to get confused by the
15 layered requirements and deadlines of the Clean Air Act,
16 and the plans that are overlapping each other, and filed
17 on top of other plans. I'm suffering from a little bit of
18 déjà vu personally, because I was appointed to my current
19 position, as most of you know, by Governor Schwarzenegger
20 after my predecessor, Bob Sawyer was summarily fired. And
21 the issue had to do with this district and the question of
22 whether they were going to be bumped up to a higher level
23 in order to give them more time to achieve the ozone
24 standard, but it also had to do with the very strong -- it
25 was really based on the very strong objections by the

1 environmental and environmental justice communities in
2 this region to, what they felt, was inadequate amount of
3 activity that was going on in the district.

4 That is they felt the rules were not sufficient,
5 and that the district wasn't doing everything that it
6 could at that point. A lot has happened since then, and
7 much of it is very good. But we find ourselves still in a
8 position where we're concerned that the plans that exist
9 need improving. And this is not just -- you know, I'm not
10 pointing fingers here. I'm just saying we're not -- we
11 don't have everything we need at the moment.

12 And so I want to get us to focus on the fact that
13 what's before us today is a recommendation that we send a
14 plan forward to EPA that our staff concedes is not an
15 adequate plan, and then work to make it better, and, you
16 know, in the future.

17 And I guess I'd like to know before we turn to
18 the witnesses here whether there's any realistic
19 alternative to that approach that you've given us that
20 could perhaps get us further faster.

21 EXECUTIVE OFFICER COREY: Yes, Chair. And just
22 for the record, I don't recall advising Seyed, but --

23 (Laughter.)

24 EXECUTIVE OFFICER COREY: But to your point, and
25 it's right on point, staff has presented a procedural

1 approach process called for or allowed for under the Clean
2 Air Act, really which is consistent with historical
3 practice, but directly to your point are there other
4 options? And there's at least one, and I'm going to ask
5 Kurt Karperos to lay out that, because I think it will be
6 useful going through, just as you noted, the follow-on
7 testimony.

8 DEPUTY EXECUTIVE OFFICER KAPEROS: So Chair
9 Nichols as you noted, staff as we -- as staff covered in
10 their presentation, the SIP in front of you today does
11 meet the minimum requirements of the Clean Air Act.

12 As a -- as the first step in the step-wise
13 process, the requirements for this SIP are, however,
14 admittedly lower than what they would be for a full on
15 attainment SIP.

16 A full attainment SIP requires a detailed
17 demonstration that the control strategy in place will
18 provide all of the emission reductions needed for
19 attainment. And that's not -- that's not the goal of this
20 thing. It's -- as you've sort after alluded to, Chair
21 Nichols, it's unsatisfying. It doesn't get you to
22 attainment.

23 Even though the staff has concluded that this
24 plan does meet the minimum requirements of the act, we do
25 believe you have options within the broader context of the

1 planning requirements of the Act, should you choose to go
2 down a different path.

3 You could direct staff to conduct additional
4 public review and exploration of programs and regulations
5 to further reduce emissions toward attainment,
6 particularly with an eye toward what will be needed to
7 attain. The review, the standard for the SIP in front of
8 you is whether or not it has Reasonable Available Control
9 Measures. And to be perfectly frank, Reasonable Available
10 Control Measures in the San Joaquin Valley is not
11 sufficient.

12 Mr. Seyed referred to Best Available Control
13 Measures. To be perfectly frank, an attainment SIP for
14 this region will actually have to push the standard of
15 Best Available Control Measures. So you could direct us
16 to go back and spend some time looking at just how far we
17 need to go with the sort of controls and emission
18 reductions needed for the region.

19 If such an effort would -- we would imagine would
20 include ARB staff holding public meetings here in the
21 region. We would be working obviously very closely with
22 the district staff, but meeting with all valley
23 stakeholders, the public, the agriculture and other
24 critical stakeholders here in the valley.

25 I think as part of that, one of the things we

1 would want to focus on is not just the measures, but the
2 science and emission inventory that underlie the SIP.
3 That allows us -- would allow the discussion here in the
4 valley to be thinking about what these measures need to
5 look like in the context of attainment, not just in the
6 context of what are the minimum requirements needed for
7 this current first step in the PM planning.

8 If you were to take a path like that, we would
9 recommend that you give us -- you direct us to come back
10 to you in some relatively short amount of time, perhaps 3
11 to 4 months, with findings out of that effort and
12 recommendations for how you could proceed at that point.

13 Lastly, it's sort of a housekeeping item, I would
14 say, the moderate SIP is due this month. So if we were to
15 take a path like this, we would reach out to U.S. EPA, so
16 that they were clear and understood what the process was
17 that we were going through here, that it was focused on
18 attainment. And they -- we believe with that sort of
19 communication between ourselves, and them, they would have
20 the discretion to not immediately have to take any action,
21 in terms of the State hasn't taken the action that's on
22 its plate.

23 So, yes, you do have an option. You do have
24 options in terms of how you want to handle the plan today,
25 even though it does meet the very minimum requirements of

1 the Act.

2 CHAIR NICHOLS: Well, I'm not speaking for the
3 Board, because the Board hasn't had this discussion, but I
4 thought it was important before we heard from the
5 witnesses who were here to have a sense of what might be
6 possible.

7 So with that -- yes, Ms. Berg. Yes, please.

8 VICE CHAIR BERG: Could I just ask one clarifying
9 question?

10 So in having the moderate SIP due this month, and
11 we're looking at serious attainment designation, then how
12 do those 2 intersect?

13 DEPUTY EXECUTIVE OFFICER KARPEROS: In our
14 communications with -- the plan that staff alluded to that
15 we're going to develop in an accelerated process with the
16 district over the next 12 months would be focused at the
17 serious area attainment deadline. And we would
18 communicate with EPA that that was the intent. That's how
19 we thought this -- their region would be going, and that a
20 request for the serious attainment deadline would come
21 later, but in a timely fashion.

22 VICE CHAIR BERG: But then as part of the
23 process, we still do turn in a moderate SIP is part of the
24 process still?

25 DEPUTY EXECUTIVE OFFICER KARPEROS: EPA will look

1 at its checklist, and even if we were to turn the serious
2 area plan in in September of next year, they would ask
3 have turned in your moderate area plan too. And so they
4 would have to review that, determine, yes it's
5 impracticable to attain by 2021. We now reclassify you to
6 serious. They move that plan to the side of their desk.
7 They would already have a serious area plan. Then would
8 then put that in the middle of their desk and start that
9 review.

10 VICE CHAIR BERG: Okay. And I don't want to
11 delay our lunch, but then my understanding is that U.S.
12 EPA did reject some portion of a plan. Where are we in
13 that in this layering?

14 DEPUTY EXECUTIVE OFFICER KARPEROS: So for one of
15 the other standards that we were talking about, the region
16 was pursuing what's called a Most Stringent Measures Plan.
17 And that is one of the allowed paths within the Act to
18 gain additional time to further reduce emissions.

19 EPA -- we've worked very, very closely with EPA.
20 And, unfortunately, at the very end, they concluded that
21 for a couple of measures that we had not provided all of
22 the documentation that they would need to be able to
23 conclude whether or not the region had most stringent
24 measures. They did not determine the negative, that they
25 weren't most stringent measures, but they didn't have the

1 information in front of them to make the positive
2 conclusion.

3 VICE CHAIR BERG: And where are we?

4 DEPUTY EXECUTIVE OFFICER KARPEROS: That then
5 takes us in --

6 VICE CHAIR BERG: Are we providing more
7 information?

8 DEPUTY EXECUTIVE OFFICER KARPEROS: That action
9 by EPA takes us into the 5 percent emission reduction plan
10 that Mr. Seyed referred to.

11 VICE CHAIR BERG: I'm just trying to connect the
12 dots.

13 CHAIR NICHOLS: No, no, believe me. You need a
14 map.

15 DEPUTY EXECUTIVE OFFICER KARPEROS: Perhaps this
16 why you want 3 to 4 more months to explain this.

17 (Laughter.)

18 VICE CHAIR BERG: No, it's okay, but that's very
19 helpful to me. Thank you very much.

20 BOARD MEMBER RIORDAN: Thank you for asking.

21 CHAIR NICHOLS: Okay. We do have 9 people --
22 actually, Seyed is not a witnesses. He's a -- he's the
23 head of the district, so we don't count him. So we have 8
24 more people, however, who wish to testify and have 3
25 minutes a piece. I think we should hear from them.

1 So we'll begin with Genevieve Gale.

2 MS. GALE: Hello, Board members. Thank you all
3 for coming down to Fresno. I really appreciate it. My
4 name is Genevieve Gale. I'm here on behalf of Young
5 Fresnans for the Environment. And also the Central Valley
6 Air Quality Coalition.

7 I really appreciate the discussion that just
8 happened. It warms my heart truly to hear that there are
9 options available to us. If we really want to extend this
10 deadline, as we've all agreed it will be necessary to put
11 together a really good plan. We need to make sure that
12 this moderate attainment SIP is legally defensible and
13 will be approved by the EPA.

14 And unfortunately, at present, there are 3
15 reasons for why it won't be approved by the EPA, and
16 for -- and why we need more time to include those in
17 there.

18 The first is that this plan does not include all
19 Reasonable Available Control Measures. The EPA sent back
20 the 2015 plan for the 1997 PM standard for failure to
21 include the most stringent measures. EPA suggested
22 measures they could include. The environmental justice
23 community has suggested measures to include. They haven't
24 been included. This 2016 plan does not include any new
25 addition information, so it will be denied like the last

1 one was.

2 The second reason is that this plan does not
3 include any contingency measures. ARB states that the
4 plan can meet contingency measure requirements based on
5 emission reductions that could go beyond those needed for
6 the reasonable further progress demonstration. However,
7 the EPA has clearly stated that quote, "Crediting an area
8 for excess emission reductions to satisfy the contingency
9 measure requirement is not allowable for moderate areas
10 that cannot attain the statutory attainment date", end
11 quote.

12 And there is a history of not including
13 contingency measures and thus getting disapproved by the
14 EPA. The same 2015 plan was sent back for failure to
15 include contingency measures. In 2011, EPA approved all
16 elements of the 2008 PM plan, except for the contingency
17 measures, which they have disapproved.

18 In 2009, the EPA disproved the 2004 ozone plan,
19 because it did not meet the clean air requirements for
20 contingency measures. In 2002, the EPA issued a finding
21 of failure to submit contingency measures. So we don't
22 have in here. And if we don't put them in, in the next
23 couple months, the plan will be denied, and we won't get
24 that extension that we so need.

25 The third reason that this won't pass is there

1 was a lack of a public process. There was not one public
2 workshop on this plan held in Fresno. And I know -- I'm
3 well aware of ARB's process and really appreciate all of
4 the workshops that you host. And you come all across the
5 state to host them. And unfortunately, there wasn't one
6 on this plan. There was only updates given at Board
7 meetings. So there was -- we haven't seen the modeling.
8 We haven't seen the measures, and Dolores will talk more
9 about that.

10 So the Board has a decision whether to pass this
11 plan or not. And I believe we should take some time and
12 put in the measures so that it can be approved by the EPA.

13 Thank you.

14 CHAIR NICHOLS: Thank you.

15 Okay.

16 MR. HAMILTON: Good morning, Madam Chair, members
17 of the Board. Thank you all for being here today. My
18 name is Kevin Hamilton. I'm the executive director of
19 Central California Asthma Collaborative. And I serve as a
20 San Joaquin Valley member of your Environmental Justice
21 Committee working on the greenhouse gas scoping plan. And
22 I thank you for the opportunity to do that work.

23 And I want to assure Mr. Sadredin that EJAC is
24 very concerned about the issue of reducing greenhouse gas,
25 not further exacerbating the criteria pollutant issues

1 here in the valley. And I really feel assured that the
2 Board feels the same way about this and will work in that
3 direction.

4 I want to agree with the comments made earlier by
5 Kurt and Richard. I really felt strongly that this
6 process was not vetted through the normal public process
7 we would take a plan of this magnitude through. Myself --
8 I considered myself very aware of what's going on. I did
9 not get a chance to actually look at the modeling here
10 until just a few weeks ago. I had some questions about
11 that. Happily, Dr. Magliano has been really good about
12 answering some of those. But that wasn't a public
13 process. That wasn't an area where everybody got to talk
14 about that.

15 And then I look at EPA's rejection of the 2015 PM
16 plan, and their take on this idea of NOx limitation within
17 the valley, and they don't seem to agree with that. Their
18 documentation, in fact, seems to go the other direction,
19 or for some other reason they're calling out additional
20 ammonia controls feeling that -- and the VOCs and
21 secondary VOCs.

22 And we -- again, we would like to see a workshop
23 where ARB assigns staff and EPA staff are in the same room
24 and they hash this out, and we get an idea of, again, what
25 the unified idea is going forward. And then we don't see

1 the plan go forward with, I won't call it, defective
2 modeling, but modeling that the approving agency does not
3 agree with, and will likely -- in fact, I could predict
4 with certitude -- send back to us again with a refusal.

5 And again, as Genevieve pointed here, we have a
6 long history of this, of plans going to EPA, being turned
7 around and sent back. And we really can't afford that
8 kind of delay, because we talk about a short delay here,
9 maybe 3 to 4 months to go through this public process.
10 But when we talk about the EPA rejecting plans, we're
11 talking about years of delay happening.

12 So let's get it right the first time. And so
13 this is not a typical the environmentalists aren't going
14 forward another delay for the sake of delay. You know, it
15 great I agreed with almost everything Mr. Sadredin said
16 today after his opening remarks.

17 (Laughter.)

18 MR. HAMILTON: So -- and I think there's been
19 some great work done here, as a matter of fact. And we
20 have great work lying before us. So we need to tools to
21 do that. They should be contained within these plans, and
22 right now, they don't.

23 So thank you very much for your time today.

24 MS. DIETZKAMEI: Thank you Chair Nichols and
25 Board. My name is Janet Dietzkamei. And to me, this

1 issue is urgency. I have a label. I am an asthmatic.
2 And I'm speaking for those of us whose population grows
3 daily in this valley.

4 I realize I was asthmatic one day when I went
5 to -- out to walk my dog. I knew the air was bad. I put
6 on a mask. During the walk, I almost passed out on the
7 sidewalk. I was very fortunate. I managed to get home.
8 My second evidence of being asthmatic in this -- and these
9 are before I was diagnosed was I reacted to smoke in the
10 air. I developed acute bronchitis going into pneumonia.
11 It took quite a while for to get over that.

12 Now, I start my day by going to Valley Air, Real
13 Air Quality Advisory Network and see what the particulate
14 level is at the time before I even step outside of the
15 house. If I want to walk my dog, I have to see that the
16 particulate level is below 15. If I go out above a 15, I
17 wear a mask. I can't go out at all when it goes above 30.

18 Just now, as this presentation was being made,
19 particulate level in my area was 27 micro units. That
20 happens frequently and it will become more frequent during
21 the winter months. I am an outdoor person. I spend a lot
22 of my time in the house. I like to ride my bike. I like
23 to go 15 miles. Rarely I can. Since the rain, I have
24 been able to go out a few days to ride my bike.

25 During the winter, when everybody is going to be

1 using their fireplaces, I won't be out much at all. The
2 smoke particulates are lethal to me. If I don't take care
3 of myself. If I don't go to the run, and check the
4 particulate levels, I will end up in the emergency room as
5 I was with the bronchitis or worse.

6 This asthma is a very serious condition. You can
7 die with asthma. This valley needs to clean up its air.
8 All of us are being affected by this. Maybe we're not all
9 asthmatic, but we are all breathing this air, and our
10 health is being jeopardized by it.

11 Thank you.

12 DR. LEE: Good morning, Chair Nichols, Board
13 members. My name is Dr. Janelle Lee. I am an emergency
14 medicine resident physician at UCSF Fresno. I work at
15 Community Regional Medical Center in downtown Fresno. I'm
16 here today to speak on behalf of patients and to voice my
17 concerns about the air pollution here in the valley.

18 I -- as you know, particulate matter has serious
19 effects on both respiratory and cardiovascular health.
20 I've lived here now about a year and have met countless
21 patients who have suffered from the poor air quality here.

22 Today I'd like to share just a couple patients
23 stories with you. I've changed their names for anonymity
24 sake. I met Jack. He's an 8-year old boy. He happens to
25 have asthma. He has to take expensive control air

1 medication just to keep his asthma symptoms at bay.

2 I met Jack one day in the ER. It happened to be
3 a poor air quality day. He was playing soccer and nearly
4 passed out from a severe asthmatic attack. His mom, a
5 single parent, had to leave work, pick him up from school,
6 rush him to the ER, so that he can get life-saving
7 breathing treatments.

8 Unfortunately for Jack, mom decided to pull him
9 out from soccer because the air quality was so bad and she
10 couldn't risk him dying on the soccer field.

11 The second patient I'd like to talk to you about,
12 her name is Sarah. She and her husband moved to the
13 valley about a year ago. Unfortunately for her, she used
14 to have childhood asthma, never had symptoms afterwards,
15 but her asthma flared up once she moved to Fresno. It was
16 so severe she had to quit her job, go on medical leave
17 indefinitely. Her lungs unfortunately had reactive
18 scarring from the air quality here, and had to be placed
19 on supplemental oxygen at all times.

20 After speaking with Sarah, she said that while
21 she loved her new life in the valley, her husband loved
22 her new job, her pulmonologist told her you need to move
23 out of Fresno, get out of the valley, move back to the Bay
24 Area to so save your life. She said the air is literally
25 suffocating me to death.

1 I shared these stories with you today to remember
2 that the decisions we make here today have life-long
3 impacts on the people here in the valley. And we all need
4 better air. Better air means better health, fewer
5 hospital visits, fewer visits seeing me, and more soccer
6 practice, more hard working individuals who choose to stay
7 in the valley and want to stay in the valley.

8 So I urge the Board today to really think about
9 and reconsider approving this plan before the right
10 contingency matters are in place. Thank you very much.

11 MS. WELLER: Well, good afternoon, Chair Nichols,
12 Board members. My name is Dolores Weller. And I am the
13 director for the Central Valley Air Quality Coalition.
14 We're based here in Fresno and we are a partnership of
15 organizations throughout the San Joaquin Valley that work
16 on air quality policy, and you will find me here at this
17 air district office very often.

18 I'd like to talk a little bit about the public
19 process, or lack thereof, on this particular item. As
20 Seyed opened up his remarks, he mentioned there was a
21 robust public process, and I disagree with that. This
22 plan, from the beginning, has been described as we're not
23 going to meet this standard. There is almost -- it's
24 useless to get into the details of it. That's the tone of
25 the planning process for this plan.

1 The modeling became available from ARB late July.
2 The air district provided an update to the Air Board
3 members in August, and in September the plan was adopted.
4 And it was essentially a plan to not do anything.

5 We have made recommendations in the past on
6 previous plans, as other speakers have commented, that
7 this is a little bit of déjà vu agreeing with Chair
8 Nichols. I recall the 2000 -- in 2013 in Bakersfield,
9 where ARB was approving the PM plan there. Countless
10 people spoke about their personal experiences living here
11 in the San Joaquin Valley, and also asked for that plan to
12 be rejected.

13 And as other speakers have mentioned, that plan
14 has been rejected by EPA. And EPA has given clear
15 recommendations on what the district can further -- they
16 can do further. We are pleased that the district has
17 taken a different approach with ozone. The Central Valley
18 Air Quality Coalition proposed a work group made up of the
19 environmental justice community, industry, and along with
20 EPA ARB and the district representatives. And together,
21 we worked on the 2008 ozone plan.

22 And we were hoping that the district was going to
23 follow through and keep with that process with a PM plan.
24 It was during that planning process we all agreed that the
25 real work where we were really going to roll up our

1 sleeves was with PM.

2 And so we're really looking forward to that
3 process for this plan, and we ask that you hold off on
4 approving this plan and direct the staff to conduct a
5 public process over 90 days to really be able to look at
6 the modeling and what further controls can be included.

7 Thank you.

8 MR. MAGAVERN: I love this podium.

9 (Laughter.)

10 MR. MAGAVERN: Let's see how high it goes. All
11 right.

12 (Laughter.)

13 CHAIR NICHOLS: You're just showing off.

14 (Laughter.)

15 MR. MAGAVERN: It's just so great to be here in
16 fresno, and have podium that goes up.

17 Bill Magavern with the Coalition for Clean Air.
18 Thank you for the opportunity to make some comments. As
19 the testimony from Janet and Janelle reminded us, we're
20 here today to talk about particulate matter. And the
21 reason why we're here to talk about particulate matter is
22 that it is making so many people sick. And this Board has
23 done a lot over the years to reduce PM.

24 We know that PM causes lung disease, heart
25 disease. It causes illness and premature death. And, in

1 fact, it seems like every year there are more and more
2 studies showing us that particulate matter is even more
3 hazardous to our health than previously thought.

4 So it seems like we really need to throw
5 everything that we have at this problem. And that's why I
6 urge you to exercise the option that Mr. Karperos
7 outlined. And I really thank you, Chair Nichols, for
8 eliciting that at the beginning of this discussion,
9 because I think it really helps to frame it.

10 So we heard, both from ARB staff and from the
11 district, about a number of measures that are in
12 development, and we support all of those. Glad to hear
13 that there's a biomass plan in a preliminary stage. We
14 support renewable natural gas. I think that could be very
15 beneficial for the valley. And we certainly agree that we
16 all need to roll up our sleeves and try to think of
17 feasible ways to raise the enormous amounts of incentive
18 dollars that will be necessary to turnover the fleets
19 rapidly enough to help both South Coast and San Joaquin
20 Valley come into attainment.

21 But all of that said, I think there is more that
22 can be done. And we've outlined in our letter 8 possible
23 measures, including reductions in flaring, controls on
24 agriculture equipment, limits on open burning, which
25 Senator Florez has been a leader on for many years.

1 And so I think the choice you have now is whether
2 to go forward, as quickly as possible, to exercise all
3 those available options, which is the way that I
4 understand the option that Mr. Karperos outlined, or to
5 say, no, we're going to wait on that. We're going to put
6 it off and say, you know, right now it's just too hard,
7 and put it off some years into the future.

8 So we would urge you to move as quickly as you
9 can, and put everything we have into solving this problem
10 for the people here in the San Joaquin Valley.

11 Thank you.

12 MR. CUNHA: Good afternoon. Thank you very much.
13 Manuel Cunha, president, Nisei Farmers League. Also a
14 member of the USDA task force that was set up in -- way
15 back with Jan Sharpless.

16 Kurt and Richard, Karen, Lynn Terry, and I can
17 name a host. Agriculture has been there to do the
18 research. In '93, took out of EPA's hide, Region 9,
19 300,000 to start the first -- under Jan Sharpless, to deal
20 with the air quality of PM. If we think, as people said,
21 maybe this plan didn't go through the full process. But I
22 remember June 30th of 2015 -- 2016, or 29th, I get a call
23 from Kerry Drake, we've denied your plan, so tomorrow you
24 guys -- you've got until December 2015, I think to -- but
25 EPA has held onto the plans for years of comments.

1 It's only the San Joaquin Valley. No other air
2 district gets -- except for the South Coast, and I
3 remember being electrocuted by Barry Wallerstein when he
4 invited me into his office with coffee.

5 (Laughter.)

6 MR. CUNHA: So this time we didn't go down there.
7 I let the district go.

8 (Laughter.)

9 MR. CUNHA: But the problem is is that Mr. Florez
10 was down here. I didn't even know you were doing a
11 biomass. I didn't even know the Almond Board was all
12 involved. And yet, we set the first research and spent
13 3.5 million before you ever became involved.

14 If that's the process, in the environmentalist,
15 then I've got a complaint. We didn't have fair process
16 even this week to sit down and talk about biomass, because
17 your Water Board -- or the State Water Board, Madam Chair,
18 is going after agriculture for all the nitrates. You have
19 compost regulations by the State Water Board conflict with
20 this.

21 You talked about a truck length rule, you know,
22 modernization, Phase 2. I do know that the CHP cited a
23 bunch of my farmers because the truck was too long,
24 because the tractor they put the new configuration in made
25 the trailer a little longer. So we got a citation because

1 the trailer is too long with the tractor. And, Kurt, we
2 spoke about that.

3 So if we're going to go forward -- and I
4 understand the process -- I don't want a repeat of 700
5 series, because the agriculture industry -- and Madam
6 Chair, if you can indulge a second please -- the ag
7 industry has been a great supporter of research. We've
8 spent a lot of money together. Edwards Air Force Base.

9 And Madam Chair, I remember you at -- with Carol
10 Browner and you were a great Vice Administrator of the EPA
11 at that time. And we've always held our word that we will
12 do the research, but don't do research that says that my
13 farmers can't milk their cows because today is a bad day.
14 No farm days, no drive days because of the air, because
15 that's going to be the solution.

16 I would hope, Madam Chair, that you would ask the
17 staff -- and I know that Richard, and other folks, and
18 especially Karen, if we're going to look at research,
19 let's do it right. Let's do it so we don't hurt the jobs.
20 Dr. Florez -- not -- excuse me. Dr. Tellis, if you
21 remember, said, the worst thing is not air quality, it's
22 when a person loses their job, and they don't have a job.

23 CHAIR NICHOLS: Thank you for that.

24 MR. CUNHA: So I want to thank you. Madam Chair,
25 I would ask that if some of the Board members would like

1 to be on a tour of our valley and this State, that even
2 our own board members of this valley include some of the
3 folks that have been here for a long time, that have
4 helped raise \$70 million plus. And incentives are
5 important. And we will do everything to help you get
6 those monies, and we will do that.

7 CHAIR NICHOLS: Thank you.

8 MR. CUNHA: Thank you for allowing me the extra
9 few minutes and --

10 CHAIR NICHOLS: We appreciate it.

11 MR. CUNHA: -- if Kevin would like some of those
12 time --

13 CHAIR NICHOLS: You -- a lot of progress has been
14 made. A lot has happened.

15 MR. CUNHA: Thank you very much.

16 CHAIR NICHOLS: And you've been part of it, so
17 thank you.

18 BOARD MEMBER EISENHUT: Mr. Isom.

19 MR. ISOM: Good afternoon. My name is Roger
20 Isom. I'm president and CEO of the Western Agricultural
21 Processors Association, and the California Cotton Ginners
22 and Growers Association.

23 And at this point, you know, our goal today was
24 to support the plan as written. We can go back and forth.
25 EPA is not here to defend themselves, but I can tell

1 you -- I can assure you that the air district continues to
2 come at us with every possible rule and regulation.
3 They've never let us off the hook. And I can assure you
4 we're the most regulated ag industry across the country
5 without a doubt.

6 But let me tell you what I did want to say, and
7 that is -- that we -- the incentives are definitely a
8 critical piece of this. We want to commit to work with
9 you as we did with Arambula's bill. We were at the
10 forefront of that in getting that additional dollars.

11 The result of that is, and it's -- it was really
12 timely because NRCS -- USDA, NRCS did a press release
13 during the middle of this meeting touting the ag emission
14 reductions from the tractor incentive program. That, as
15 you recall, back in 2008 when ARB adopted the SIP that
16 required ag tractor reductions to get 5 to 10 tons
17 reductions beginning in January 2014 to have that done by
18 January 1 of 2017.

19 In that press release, and I'm sure the district
20 can verify this, we already have 12.49 tons of reductions
21 in NOx on a voluntary basis, as a result of those
22 incentive programs.

23 They work. You don't have us up here bitching
24 and moaning about it. They're done. They're already in
25 place. We need to continue that, whether it's Carl Moyer,

1 working with Board Member Berg, working on the farm bill,
2 working on DIRA, as we've been back to D.C. to push for
3 more funds there. We use all of those programs.

4 And the thing to remember too though is, is that
5 the farmers have put in our share. More than 50 percent
6 of that money came from the farming community to do that.
7 So I just want to say that we're here to commit to work
8 with that, and continue that effort on that, as well as
9 the research that Mr. Cunha brought up.

10 The last thing is I know I've just got a
11 couple -- a minute, is on the biomass and biogas. We were
12 unaware of this summit. But let me tell you something,
13 I'm not sure that there's anybody in -- else out there
14 that knows as much as we do about the biogas industry and
15 what we're doing, because we're not just talking about it.

16 Our organization has a project in Woodland. It's
17 a commercial scale research project. It's a syngas,
18 synthetic gas biogas plant. And for the last 2 years we
19 run every kind of agricultural by-product through it that
20 we can, from rice straw, to cotton stocks, to almond
21 shell, walnut shell, almond hulls. You name it, we've
22 tried it to prove that the -- A, that the technology
23 works, B, that it's cost effective, and C, and most
24 importantly for the air district, that it's going to meet
25 the NOx emissions on the other end.

1 And so we've tried different engines, catalysts.
2 We've proven the technology. Where we're at today is that
3 we've got a walnut operation in the valley that's actually
4 doing an interconnect study with PG&E that we are moving
5 ahead. In fact, we met with the air district 2 weeks ago
6 on the permitting process to start going down that road.
7 So it's not just talking about it.

8 We also have an almond operation up in Sacramento
9 Valley looking at the same type of thing. So we're moving
10 forward with that trying to get you the answers that you
11 need. And we've been heavily involved in that.

12 Thank you.

13 CHAIR NICHOLS: Thank you. Our last witness.
14 Yes, Sarah.

15 MS. SHARPE: Good afternoon, Chair Nichols. Good
16 to see everybody. I'm happy to have you here in Fresno.
17 I'm Sarah Sharpe. I currently work with Central
18 California Asthma Collaborative. And I've been a part of
19 this air quality advocacy movement since 2005. And I also
20 am feeling some déjà vu.

21 And I've worked closely with many of you on the
22 Board, and some of you are new. And it's good to see the
23 new faces. I really want to welcome you to Fresno. We
24 would like you to come more often.

25 As you can see, you just got a really good

1 sampling of the wide range of issues that we're dealing
2 with here and the severity of the problem, and why we
3 continue to have to bring these issues up at your Board
4 and all the other boards that we can.

5 We know everybody is doing the best that they
6 can. And, you know, we have in the past found with many
7 of the examples given by my colleagues that when we go
8 back and revisit a plan, we often do come out with a
9 better plan. And that's what we're asking for today, a
10 little bit more time to make sure we get the best outcome
11 possible for every -- for my children who still play
12 soccer and don't have asthma. Myself have asthma and
13 we've had some really bad days lightly.

14 Also, I want to mention that we've been asking
15 for many years for the ag equipment rule to happen. Roger
16 just reminded me -- I think it was Roger or Manuel --
17 that, you know, we've been asking the ARB to really make
18 progress on the ag equipment rule. And that's one of the
19 last sources of diesel that haven't addressed as a State.

20 And I know it's difficult. We all know that our
21 jobs are important, and nobody wants anybody to go without
22 a job or without a healthy life, you know, or -- there's
23 just -- we don't see the need to choose between the two,
24 and it shouldn't be that way anywhere in California.

25 So in closing, I think just on behalf of all the

1 people that I work with and have worked with, and I serve
2 on the Air District's Citizens Advisory Committee and have
3 served on many boards. But we would really ask you to
4 grant the district a 90-day period to correct the
5 following -- the deficiencies that have been mentioned
6 previously and kind of go along with what Kurt mentioned
7 as the other option. We just feel like there's a little
8 bit more work to be done.

9 Thank you.

10 CHAIR NICHOLS: Thank you. That concludes our
11 list of witnesses. And so we will close the record for
12 official purposes at the moment, but we will have now some
13 time for Board discussion. And I'm happy to recognize any
14 of my fellow Board members who might have a suggestion as
15 to what they'd like to see us do next starting with
16 Senator Florez

17 BOARD MEMBER FLOREZ: Thank you. Very much
18 appreciate it.

19 First, thank you to the Chair and to the staff
20 for clarifying at the beginning the options. So I think
21 that, you know, obviously helps a lot listening to the
22 testimony. Second I would say that I would definitely
23 like to have the 90 days just from the input point of
24 view.

25 This was, in some sense, you know, kind of put on

1 us. The EPA gave us a very short time. We created a
2 model in July and we sent it to the district. The
3 district had a month. September 15th voted on it, and we
4 find ourselves here the next month. So I just think in
5 that process, you know, giving our environmental justice
6 folks a little more time to have some concrete, and some
7 very good conversations with this district.

8 And I would say, just for the record, that, you
9 know, it would be really not a good thing to spend 90 days
10 and have nothing come out of it, so -- and that's more of
11 a challenge to both, the EJ community and to the district
12 to try to figure out how much more we can eke out of this.
13 Even, I think, as Seyed said, there's a -- there's so many
14 more larger things to solve. It would seem that as we
15 work towards this, that we should hold, allow those 90
16 days.

17 And I'm not sure how to frame that, Madam Chair,
18 in terms of a motion, so I will leave that to staff to
19 figure out the right way to do this, because I heard very
20 clear that we also have to contact EPA, and let them know
21 exactly what our thought processes are, and when they're
22 likely to see something, because we are going from a
23 moderate plan to an extreme plan. And I was very happy to
24 hear -- and I always thought the process worked that way,
25 the check-off list, but every thing still has to be on the

1 desk.

2 (Laughter.)

3 BOARD MEMBER FLOREZ: So the moderate plan has to
4 be completed. At same time, they have to very seamlessly
5 go onto the more extreme plan, which I think would be of
6 value to have these 90 days to make sure that at least is
7 inclusive of what the environmental justice groups are
8 asking for.

9 And I will say just to Mr. Cunha and to Roger
10 Isom, who I both worked with for many years, on the
11 biomass conversation we had yesterday -- Mr. Corey was
12 there. Thank you for being there, and staff who were
13 there -- let's reset that as well, to make sure we have
14 those groups, as we are doing today, you know, have a more
15 inclusive conversation.

16 So I think, in some sense, opening up both
17 processes would be a good thing as we move forward. So I
18 would just say we did have a lot of good conversation, but
19 I don't think we necessarily set anything in stone. So I
20 think in both senses opening those up would be a great
21 thing. That's my only comment.

22 CHAIR NICHOLS: That's excellent.

23 I'd like to call on Mr. Serna and then I
24 understand that Mr. Sadredin would like to come back up
25 and have a few words.

1 BOARD MEMBER SERNA: Thank you, Chair.

2 First of all, I want to thank the folks that
3 testified this afternoon. I find your testimony very
4 compelling. And any time I hear about accounts of public
5 processes not materializing the way that constituents had
6 hoped, and it's very consistent testimony about that, my
7 antennae tend to go up, and that goes for all the various
8 hats that I wear, and I know some of my other elected
9 colleagues up here also understand.

10 And so I'm definitely, first of all, prepared to
11 support a motion, if it comes from Senator Florez or
12 others, that would include at least 90 days to explore
13 some of the options that -- or all the options that Kurt
14 mentioned in his remarks.

15 And, you know, I just want to stress -- it kind
16 of goes without saying, but I'll say it anyway -- this
17 is -- this is just too important not to exhaust a healthy
18 conversation, no pun intended, between the constituency
19 that is really focused on public health. And I'm glad we
20 had some folks come all the way down from Sacramento to be
21 here as well, and a local district that has, you know,
22 obviously a very, very tough challenge in front of them.

23 So we have to get this right. We have to, I
24 think at the end of the process, look back with some sense
25 of pride, knowing that we didn't short-change ourselves,

1 we didn't short-change the public.

2 So I'll be prepared to second a motion should one
3 of my colleagues decide to make it and frame it that way.

4 (Laughter.)

5 CHAIR NICHOLS: Just to be clear, I want to make
6 sure that we heard correctly, that I heard correctly, the
7 staff's view that there are ways in which this plan can be
8 strengthened, not just rolled over into the next plan,
9 because obviously there is going to have to be a much more
10 ambitious plan in about a year.

11 So, you know, you don't want to, in effect, waste
12 time, but at the same time, people here are anxious to see
13 progress, and that includes, I assume, some specific
14 things that they would like to have added to the current
15 plan.

16 VICE CHAIR BERG: And, Mr. Corey, could you also
17 address the time frame? Do we have the time frame to be
18 able to look at this today, the additional 90 days?

19 EXECUTIVE OFFICER COREY: We do, in that the
20 follow up that Mr. Karperos said we need to do with EPA,
21 we will lay that out. But the process that you laid
22 out -- and we will lay this out to EPA as well, but just
23 to be crystal clear and go to the Chair's question, what
24 I'm hearing is direction, one, not to act on the staff
25 proposal to direct staff to hold in the region a public

1 process.

2 And in my mind, that probably translates -- I
3 think that translates into more than one workshop. I
4 think it translates into a series of work group
5 discussions, and they're focused on really -- the central
6 focus is additional opportunities for NOx reductions and
7 PM from mobile and stationary sources. And this would
8 require a -- not only a close work with the regional
9 stakeholders, but with the district, and to return back to
10 the Board. And I'm going to say February, because the
11 process that I'm talking about --

12 VICE CHAIR BERG: You have holidays.

13 EXECUTIVE OFFICER COREY: There's holidays and
14 there's also -- it's more than one workshop, because the
15 process is going to be a really important element of this,
16 and a report back to the Board in February to the point
17 that was raised -- we want action to come out of this --
18 is what the discovery that came out of that process, where
19 are there additional opportunities for NOx and direct PM
20 from mobile and stationary, and to the Chair's point, how
21 many of those live in the moderate plan versus the serious
22 comprehensive PM plan that we'll return to the Board later
23 in 2017?

24 So I think it's a report on what was the result
25 of that discovery and what is the recommendation, specific

1 actions with respect to the moderate plan and what may
2 live there versus the more comprehensive plan that will --
3 on PM that returns to the Board in fall.

4 CHAIR NICHOLS: Mr. Gioia had his hand up.

5 BOARD MEMBER GIOIA: I think Mr. Corey answered
6 my question. I think the motion was intended not just
7 about the public review, but direction to explore, as you
8 put it earlier, additional programs and regulations to
9 further reduce emissions toward attainment, and you gave
10 some examples. I just was clarifying that.

11 BOARD MEMBER SERNA: If I can just put -- Chair
12 Nichols --

13 CHAIR NICHOLS: Yes.

14 BOARD MEMBER SERNA: -- if I can just put a finer
15 point on both what my colleague, Supervisor Gioia, and
16 what Mr. Corey just mentioned. I don't want us to
17 forget -- I think it was the last thing that Kurt
18 mentioned, which is if we're going to really look at
19 aggressively tackling NOx, it's going to require looking
20 at this SIP actually being the pressure that raises the
21 bar.

22 In other words, it's going be -- have to be --
23 involve innovative -- some innovative thinking. And that
24 has to be part of what's going to happen in the next 3 to
25 4 months, I would imagine.

1 EXECUTIVE OFFICER COREY: That's correct. But
2 not to confuse this, but I think it -- hopefully, if I say
3 this correct, it will help clarify, and that is,
4 currently, the agency has out for public review a mobile
5 source SIP strategy. A -- and I would characterize it,
6 and I think I checked. I did dome fact checking here.

7 (Laughter.)

8 BOARD MEMBER SERNA: That terms is overused right
9 now. I'm sorry.

10 (Laughter.)

11 EXECUTIVE OFFICER COREY: That it's the most
12 comprehensive, ambitious mobile source NOx package that
13 we've ever put together. This is a package that will be
14 coming to the Board as part of the mobile source
15 attainment strategy next year -- early next year. So that
16 maps directly into this conversation. So if the
17 conversation is are we missing opportunities? And the
18 discussion down in the valley is going to be both about
19 NOx, again on mobile and stationary, as well as direct PM,
20 mobile and stationary.

21 CHAIR NICHOLS: So I have both Ms. Mitchell and
22 Mrs. Riordan we'll hear from both of them. I think
23 what -- you know, we understand that legally your initial
24 approach, which was to say, yeah, this meets the standard
25 for a moderate plan, so let's just turn it in, and get on

1 with it, was probably legally defensible. Although, I've
2 heard some statements that might make one wonder whether
3 that was really true or not.

4 But even assuming that it was, that that just
5 doesn't seem like the process that we would like to see
6 followed, given the severity of the problem, but go ahead.
7 We've got other Board members from other districts here
8 who have --

9 BOARD MEMBER MITCHELL: Thank you. Thank you,
10 Madam Chair.

11 And one thing I think that we cannot emphasize
12 too much is that when we are talking about turnover of
13 heavy-duty trucks, really the only way that we're going to
14 get there is that combination of incentives, plus
15 regulation. And as part of our petition to the U.S. EPA
16 on our low-NOx regulation, we also ask the federal
17 government to think about developing a Superfund for air.

18 You have Superfunds for, you know, soil
19 contamination, and other kinds of contamination, and water
20 even, but we don't have anything for air. And I think
21 this is an effort that we really ought to be pursuing as
22 well, when we talk about low NOx and the challenges that
23 we face here.

24 We need to not impact agriculture and business to
25 such a degree that we're losing jobs. We can't do that in

1 this economy. We need to be very cognizant of keeping a
2 vibrant economy. And there's no reason why we can't do
3 both. But I think a dedicated fund that keeps coming into
4 a super -- sort of a Superfund for clean air is one way we
5 can do that.

6 And we need a broader -- a broad coalition. It
7 can't just San Joaquin Valley, district, and the South
8 Coast District. We need all of California, all of our
9 districts to help with this. We need the coalition of the
10 northeaster states. We really need to be working on this
11 in a very broad, broad way.

12 So I just wanted to say that, because I know that
13 Dr. Sherriffs and I, and the San Joaquin District and my
14 district have worked together and are talking right now
15 about how are we going to get the incentive funding for
16 these plans that we are now working on? So that is a
17 really important part of that.

18 CHAIR NICHOLS: Mrs. Riordan.

19 BOARD MEMBER RIORDAN: Yes. In thinking about
20 groups that are affected and contributing to some of the
21 pollution here, I've not heard a lot of talk about not
22 only local government but State government. And I thought
23 of this yesterday as I was driving up. I saw quite a bit
24 of dust. And thought, oh, well, somebody is out plowing a
25 field. It wasn't. It was Caltrans.

1 (Laughter.)

2 BOARD MEMBER RIORDAN: And, you know, none of us
3 want the, you know, problems with the ultimate problem of
4 not having our roads plowed, because we tend to get the
5 tumbleweed problem. And if anybody has ever hit a
6 tumbleweed again, you don't want to hit a tumbleweed
7 again.

8 So I understand what the focus should be, but I
9 also remember, and maybe you've taken care of this, not
10 only do they plow, but they burn at times those
11 tumbleweed, you know, piles that they put together.

12 CHAIR NICHOLS: Whatever you call them of
13 tumbleweeds.

14 BOARD MEMBER RIORDAN: So I really think that
15 there are government agencies that should be involved. I
16 mean, it sounds like a small thing, but in the aggregate,
17 we may be contributing quite a bit as we operate our
18 government. So I would encourage you to include them in
19 the process of what we might do more to help this air
20 pollution control district.

21 CHAIR NICHOLS: Ms. Takvorian.

22 BOARD MEMBER TAKVORIAN: Thank you. I just
23 wanted to thank CARB staff, and the district staff, and
24 all of the public members who have been here today. I
25 really appreciate it, and I would support the motion.

1 I'm hoping that in this next period of time --
2 and I want to say that I appreciate that you're --
3 Richard, that you're actually looking at how long it's
4 going to take. And I think even that's an abbreviated
5 time period, but it's really important to think about more
6 than one workshop, to think about a work group that can
7 kind of dig in and, you know, meet for a long period of
8 time. So I really appreciate that.

9 I think one of the things that I've heard is that
10 there are specific milestones. And I know that's stated
11 in here there are quantitative milestones, but one of the
12 things I think is really important is for us to see that
13 what -- what are we projecting as those milestones that
14 can then accompany both the regulations and the
15 incentives, because I think that those things all need to
16 go together.

17 And without those, I don't know that we'll have
18 robust support for the incentives. I really like the
19 transformative climate communities. And I would like to
20 see what the actual PM2.5 reductions would be, because
21 while I think that's a really important project, and one
22 that I know we supported going forward in the legislature,
23 it would be important to look at the fact that it doesn't
24 seem like that's where the major sources are for PM2.5.

25 It will be a benefit, but where are there other

1 transformative measures? Perhaps to Judy's point of where
2 else can we get that kind of major infusion, so that we
3 can transform in the ag industry, for instance, to really
4 help?

5 So I hope that we can look at the project that
6 way going forward. And I'm sure that everyone will really
7 put their best foot[sic] forward and put a lot of time
8 into this in the next 3 or 4 months.

9 Thank you.

10 CHAIR NICHOLS: Seyed, I know you've been Anxious
11 to speak. I had to give everybody a chance to get their
12 views in.

13 MR. SADREDIN: I really want to thank you thank
14 your staff for the direction that this discussion is
15 going. What you're suggesting to do here is really what
16 we wanted to do from the beginning. We didn't think --
17 the reason I, you know, criticized this process for being
18 just bureaucratic, to show, oh, yeah, let's prove the
19 obvious and meet the bare minimum requirements. If that's
20 all we're doing, I was not in favor of delaying it.

21 But I'm glad that Richard is not mad at me --

22 (Laughter.)

23 MR. SADREDIN: -- and Kurt is not mad at me. And
24 we're going in the right direction. Let's take more time.
25 That's what we wanted to do, because, you know, when EPA

1 failed to act right away, they did not disapprove our
2 plan. They just failed to act by deadline.

3 What had happened, it only gave ARB, the district
4 time. We met in Region 9. I said let's not send the
5 plan. Let's wait. Let's wait. And Region 9 and others,
6 they said, oh, no, we don't want to miss -- let's do a
7 plan, put a plan together quickly and send it through. So
8 that's what you had.

9 So I only want to mention a couple things. I'm
10 hoping this is not just 2, 3, 4, 5 months of, you know, a
11 reshuffling the deck and sending you back the same exact
12 plan. I ask that you direct your staff that the plan that
13 comes back to you has to have more reductions from mobile
14 sources than it -- the plan that is before you today,
15 whether it comes from regulatory measures, whether it
16 comes from incentive measures. Let's put more reductions
17 into this plan and move the ball forward, not just, oh,
18 here's -- we went through it and, you know, nothing can be
19 done and let's move forward.

20 Let's direct the staff to amend the mobile source
21 control strategy to take into account the 2021-2025
22 attainment deadline. As one of the Board members
23 suggested, let's make this set the standard for the State.
24 What we need in San Joaquin Valley, let's have that be the
25 part. So if it takes 3 months or 6 months, let's do it

1 good.

2 But one other issue that you have to be careful,
3 and we all have to be careful, and I'm happy Rich said
4 let's communicate with the EPA. As we speak, I'm going
5 around San Joaquin Valley talking to elected officials
6 warning them about potential sanctions on San Joaquin
7 Valley. Because even if we got this, you know, extension,
8 as you all saw, it is a very difficult plan to put
9 together ultimately.

10 So we're preparing the valley for facing the
11 sanctions, for facing the federal implementation plan,
12 which some people say would be months of no farm days, no
13 drive days, and things like that. The valley needs to be
14 ready to deal with that, if we're not able to put a plan
15 together.

16 So let's communicate with EPA that we are working
17 on this, because the sanction clock will not begin until
18 EPA makes a formal finding that you failed to meet the
19 deadline. So let's do everything we can, working with
20 EPA, to make sure the sanction clock doesn't begin too
21 quickly. Because once the sanction clock begins, the
22 clock you can never turn off until you're in attainment or
23 meet the obligations.

24 So let's make sure we don't put the valley's
25 disadvantaged communities in jeopardy of losing billions

1 of dollars, and having EPA come here and say let's shut
2 down, you know, the freeways and the farms.

3 So as long as we do that, I'm hoping that we can
4 work together. One last point about contingencies, that's
5 something we have to be careful, because, you know, for
6 people that, you know, just look at this without, you
7 know, looking at the full impact, it's a little bit
8 misleading, the contingency. It's a -- you always want to
9 have contingencies. But in an area where we've thrown the
10 kitchen sink in the plan, and we can still not show
11 attainment.

12 People that ask for contingency, what measures do
13 they want us to hold back, to take it out? Oh, let's not
14 do it now. Let's save that for contingency for later.

15 That, too me, is detrimental to air quality.
16 That's why it has been a big problem for ARB, for South
17 Coast, for us to meet the contingency requirements,
18 because we're throwing everything in the mix. We're not
19 saving something for later, so we don't have
20 contingencies. It's hard to have contingencies when
21 everything that you have already is not enough.

22 So let's set the expectations correct. So
23 hopefully, your direction to the Board -- to the staff
24 would be let's take our time, come back with a plan that
25 moves the ball forward. Let's make sure the plan that

1 comes back has more reductions from mobile sources, any
2 reductions that we can get from stationary sources. Let's
3 have a full public engagement about those rules and the
4 regulations that we have to do.

5 But it's -- as you saw, 85 percent of the
6 pollution comes from mobile sources. So the plan coming
7 back hopefully will have 85 percent more reductions from
8 mobile sources.

9 And with that, I encourage you to -- as long as
10 we can work with the sanction clock with EPA to follow
11 what Senator Florez has suggested by way of, you know,
12 taking more time to do it right.

13 CHAIR NICHOLS: Thank you.

14 Ms. Berg, you had, I think some -- you've been
15 taking notes busily here, and I think you had a thought
16 about sort of process.

17 VICE CHAIR BERG: Yeah. Thank you, Madam Chair.
18 I would like to move to table our 16-9-5 and instruct ARB
19 staff to prioritize an additional public review, including
20 the district, with full public engagement looking at our
21 Mobile Source Strategy and coming back to the Board,
22 February --

23 EXECUTIVE OFFICER COREY: (Nods head.)

24 VICE CHAIR BERG: -- 2017 with a full review as
25 to putting more detail behind the current moderate plan

1 along with explaining layering into the serious plan as
2 you indicated, Mr. Corey. We also would like to instruct
3 that you would communicate, as you indicated, with U.S.
4 EPA to make sure we mitigate any consequences for taking
5 the additional time, and really want to encourage all
6 stakeholders, our health advocates, our community
7 advocates, and our business advocates, because we know
8 that those constituents keep this valley healthy, and we
9 need to do that.

10 CHAIR NICHOLS: Okay. That's a motion that's on
11 the table.

12 Do we have a second?

13 EXECUTIVE OFFICER COREY: One question to
14 clarify, and I understood it to be part of your direction,
15 in terms of the closer look at NOx and PM -- direct PM
16 reductions, it's mobile and stationary that we're looking
17 at.

18 CHAIR NICHOLS: Not just mobile.

19 VICE CHAIR BERG: Right.

20 EXECUTIVE OFFICER COREY: Correct.

21 VICE CHAIR BERG: Mobile and stationary.

22 BOARD MEMBER MITCHELL: So do we also want to
23 talk about or include in the motion that advancement to
24 2025? Do we want -- that was suggested. You know,
25 instead of looking as far out as 2031, we need these

1 improvements in air quality by an early date, by 2025.

2 CHAIR NICHOLS: An earlier date, yes. I think
3 that's sort of implicit in the motion yeah.

4 BOARD MEMBER MITCHELL: I think we should also
5 include that in the motion to look at that.

6 VICE CHAIR BERG: Yes, that would be included
7 that we're looking specifically as to measures that can
8 obtain by the 2025.

9 CHAIR NICHOLS: Does that meet the intent that
10 you had, Mr. Florez?

11 BOARD MEMBER FLOREZ: Yes. I mean, you can
12 either include it in the moderate plan, or you can iterate
13 towards the, you know, the larger extreme plan. But it
14 seems to me if we start with the most immediate, that's
15 more of a conversation, I think, with staff -- local staff
16 and the groups who are affected. So it really -- I think
17 you've phrased that right.

18 Second.

19 CHAIR NICHOLS: Thank you. That's what I was
20 hoping for.

21 BOARD MEMBER TAKVORIAN: And does that assume --

22 CHAIR NICHOLS: Further discussion. Yes.

23 BOARD MEMBER TAKVORIAN: -- benchmarks in
24 between? Does that assume benchmarks? Do we have to
25 add -- would we need to add that to the motion?

1 CHAIR NICHOLS: Can you --

2 EXECUTIVE OFFICER COREY: I don't think so. I
3 think we're clear that the report back to the Board is the
4 process in terms of the discovery of additional
5 opportunities for NOx and PM, and then the -- and then
6 where do they live?

7 BOARD MEMBER TAKVORIAN: Okay. Yeah. Thank you.

8 VICE CHAIR BERG: Thank you for that.

9 CHAIR NICHOLS: If that's --

10 BOARD MEMBER EISENHUT: One quick comment.

11 CHAIR NICHOLS: Yes, Mr. Eisenhut.

12 BOARD MEMBER EISENHUT: Not intending to add this
13 to the motion, but in your notes, Mr. Corey, there's been
14 discussion about making sure we explore possibilities for
15 incentives. And while Ms. Mitchell's idea of a Superfund
16 is intriguing, it's not going to happen by February.

17 (Laughter.)

18 BOARD MEMBER EISENHUT: And so I would just
19 request that your notes include an emphasis on that as we
20 move forward.

21 CHAIR NICHOLS: I think we all understand that
22 incentives are an essential part of any package for
23 attainment here.

24 All right. Without further ado then, I'm going
25 to call for a vote on the motion.

1 All in favor, please say aye?

2 (Unanimous aye vote.)

3 CHAIR NICHOLS: Opposed?

4 Abstentions?

5 Terrific. Thanks, everybody, for a very, very
6 good discussion. We were scheduled for a lunch break, and
7 I think people need to eat lunch, but I'm not going to go
8 forward with a plan for an executive session. We don't
9 need one, and it would take more time. We don't need to
10 be briefed on any pending litigation at this moment, so we
11 will waive that.

12 And we will try to be back in a half an hour, if
13 at all possible, because we've got a lot of people who
14 want to speak this afternoon.

15 BOARD MEMBER SERNA: We'll just inhale our
16 sandwich.

17 CHAIR NICHOLS: Oh, come on. Half an hour. If
18 we say half an hour, it's likely to be 45 minutes. I
19 know. All right. Send the marshals out to round us up if
20 we don't come back in time.

21 (Off record: 1:34 p.m.)

22 (Thereupon a lunch break was taken.)

23

24

25

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

2 (O N R E C O R D : 2 : 1 4 P . M .)

3 CHAIR NICHOLS: All right, ladies and gentlemen.
4 We do have a Board. We have witnesses. We have staff.
5 We have everything we need. Let's have a meeting.

6 (Laughter.)

7 CHAIR NICHOLS: Okay. We are now turning to the
8 last item on our agenda for today, which is a very
9 important one, because it has to do with the spending of
10 money.

11 VICE CHAIR BERG: Which we actually have.

12 CHAIR NICHOLS: Which we have to spend, right.
13 That's even better. So we're talking about modifications
14 to the fiscal year 2016 and '17 funding plan for low
15 carbon transportation investments. When we approved this
16 plan back in June, the \$500 million in auction proceeds
17 funding for low carbon transportation was still pending
18 before the legislature, so the plan was may contingent on
19 appropriation of the funds.

20 The legislature has now appropriated \$363 million
21 to ARB for the program. So today, we're going to hear
22 staff's proposal for how we can revise the plan in light
23 of the somewhat lower funding that has been made
24 available.

25 So I'll turn it over to Mr. Corey for a staff

1 report.

2 EXECUTIVE OFFICER COREY: Yes. Thanks, Chair
3 Nichols. So as you heard at the June Board meeting, there
4 was considerable demand for advance technology incentive
5 funding, even exceeding the original \$500 million
6 proposal. So scaling back the funding is going to leave
7 some unmet demands. And as part of the budget
8 appropriation, as you know, the legislature provided
9 specific direction on how these funds will be appropriated
10 among ZEV rebates, CARB scarp and replace, and other
11 light-duty equity projects and heavy-duty vehicle and
12 off-road equipment projects.

13 So staff's proposal aims to keep as much of the
14 previous Board-approved funding plan in tact as possible,
15 while working within these legislative directives.

16 You heard Board support -- broad Board support
17 for the funding plan in the public testimony at the June
18 Board meeting, so we believe this is the best approach for
19 making the necessary changes.

20 So as part of the presentation, staff will also
21 review for the Board a number of changes to the Clean
22 Vehicle Rebate Project mandated by the legislature in an
23 associated budget trailer bill.

24 And with that, I'll ask Andy Panson of the
25 Innovative Strategies Branch to give the staff

1 presentation.

2 Andy.

3 (Thereupon an overhead presentation was
4 presented as follows.)

5 AIR POLLUTION SPECIALIST PANSON: Thank you, Mr.
6 Corey. And good afternoon, Chair Nichols and members of
7 the Board.

8 Today I'll present our proposed modifications to
9 the funding plan for low carbon transportation and AQIP
10 now that the legislature has approved our final program
11 budget.

12 --o0o--

13 AIR POLLUTION SPECIALIST PANSON: As the Chair
14 noted in her introduction the \$500 million in proposed low
15 carbon transportation funding was still pending when the
16 Board approved this year's funding plan in June.

17 The plan includes contingency provisions to
18 address this budget uncertainty including a direction that
19 staff return with proposed modifications if the final
20 budget is less than 400 million. I'll note that the \$29
21 million AQIP budget had already been approved by the
22 legislature at the time of the June Board meeting, so
23 we're not proposing any changes to that part of the plan
24 today.

25 --o0o--

1 AIR POLLUTION SPECIALIST PANSON: At the end of
2 its session, the legislature passed, and the Governor
3 signed, a cap-and-trade auction proceeds budget
4 appropriating funding to 10 different State agencies for
5 various greenhouse gas reduction programs. ARB received
6 \$363 million for low carbon transportation projects.

7 We also received \$5 million for a new black
8 carbon wood smoke reduction program, which is not part of
9 today's proposal.

10 ARB's low carbon transportation appropriation
11 includes specific direction from the legislature on how we
12 allocate these funds. And the legislature also passed a
13 companion budget trailer bill mandating a number of
14 changes to CVRP. I'll summarize the statutory direction
15 before presenting our proposal.

16 --o0o--

17 AIR POLLUTION SPECIALIST PANSON: This next slide
18 shows a comparison of the project category allocations
19 approved by the Board in June along with those specified
20 by the legislature in the budget. In some cases, such as
21 CVRP, the legislature gave ARB no discretion in how to
22 allocate funds. In others, such as the light-duty vehicle
23 equity projects, and the heavy-duty vehicle projects, the
24 legislature specified a funding total, but gave ARB
25 discretion on how we divide the funding up among projects.

1 In the case of the very low carbon fuel
2 production incentives, a new category in this year's plan,
3 the legislature did not ultimately allocate any funding,
4 so we will unfortunately not be able to implement this
5 project.

6 As you can see, the legislature scaled back
7 funding in most categories in order to trim the overall
8 budget. An exception is the light-duty vehicle equity
9 projects, where the legislature increased funding by \$30
10 million relative to our funding plan.

11 --o0o--

12 AIR POLLUTION SPECIALIST PANSON: The legislature
13 also passed a companion bill mandating 5 changes to CVRP.
14 These include cutting the income cap by 40 percent to the
15 annual income levels shown on this slide, and increasing
16 rebates for low income applicants by \$500, so they now
17 range from \$3,500 for a plug-in hybrid up to \$7,000 for a
18 fuel cell vehicle.

19 These are available to consumers with household
20 incomes less than 300 percent of the federal poverty
21 level, which equates to an annual income of just under
22 \$75,000 for a household of 4.

23 --o0o--

24 AIR POLLUTION SPECIALIST PANSON: This new
25 legislation also limits CVRP eligibility for plug-in

1 hybrid vehicles to those with an electric range of at
2 least 20 miles. Following the certification procedures we
3 use for determining credits in the ZEV regulation this
4 will eliminate 2 currently eligible models, a Volvo and
5 Mercedes-Benz.

6 The last 2 changes are requirements for outreach
7 to low income households to increase consumer awareness
8 and prioritized rebate payments for low income applicants.

9 --o0o--

10 AIR POLLUTION SPECIALIST PANSON: With that
11 background, let's now move on to our proposal for how we
12 would modify the funding plan to address these changes.

13 In developing our proposal, we followed the
14 guiding principle of trying to keep as much of the
15 Board-approved funding plan in tact as possible, while
16 addressing the smaller budget and additional legislative
17 direction.

18 As you heard in the testimony at the June
19 hearing, there was broad support for the funding plan.
20 Many commenters noted that additional funding is needed,
21 but there is a general recognition that the funding plan
22 was carefully crafted to balance the available funding
23 with the needs across all project categories. We'd like
24 to maintain that balance.

25 --o0o--

1 AIR POLLUTION SPECIALIST PANSON: First, I'll go
2 over the changes to CVRP. The \$133 million allocation and
3 new eligibility limits are set in statute. So no further
4 Board action is needed. The legislature specified a
5 November 1st 2016 effective date for these new provisions.

6 We're incorporating these changes into the CVRP
7 application, and terms and conditions. And we held a
8 public work group in September to go over the
9 implementation details and start to get the word out, so
10 there are no surprises when these new requirements take
11 effect.

12 With respect to the new requirements for outreach
13 to low income households, and prioritized rebate payments
14 to low income applicants, we already incorporated these
15 provisions into the funding plan that the Board approved
16 in June. So again, no further Board action is needed.

17 The statutory requirement for these changes
18 sunsets on July 1st, 2017, but we intend to keep them in
19 place beyond that date. Any further revisions would be
20 done through a public process and with Board approval in a
21 future funding plan.

22 --o0o--

23 AIR POLLUTION SPECIALIST PANSON: You're likely
24 wondering how the \$133 million compares to projected
25 demand, given that it's so much lower than the \$230

1 million that we had included in the June plan.

2 First, I'll remind you that the 230 million was a
3 16-month allocation intended to meet demand through next
4 September. We did that to provide a funding buffer
5 between budget cycles in the event that an auction
6 proceeds budget is not signed by the start of the fiscal
7 year.

8 At the time, we had estimated a corresponding
9 12-month funding need through next June to be about \$170
10 million. We've since reevaluated the funding need in
11 light of the new eligibility criteria and rebate demand
12 through September. The lower income caps alone may reduce
13 demand by about a quarter.

14 We now estimate that between 125 million and 135
15 million is needed through next June. That's enough for
16 fifty to sixty thousand rebates. And this includes
17 payments to applicants currently on the waiting list.
18 Thus, the \$133 million allocation should meet demand
19 through the fiscal year or at least through the vast
20 majority of the year, so we're not proposing any further
21 changes to CVRP beyond those mandated by statute. We may
22 need to use a waiting list if our projections are off and
23 we run out of funding earlier.

24 At this funding level, however, we likely won't
25 have a buffer to keep paying out rebates past June if

1 there is another budget delay.

2 --o0o--

3 AIR POLLUTION SPECIALIST PANSON: One more point
4 on CVRP. There are consumers that have been waiting since
5 June to receive their rebates. We've taken a number of
6 steps to expedite payment now that the budget has been
7 signed. We added \$55 million to the existing CVRP grant
8 contingent with the approved funding plan. As soon as the
9 State Controller's office releases these funds, we'll
10 start paying out rebates and we'll make sure the first
11 checks go to low income consumers.

12 We've also released a competitive solicitation to
13 select a project administrator for the rest of this year's
14 funds. So we should have a new grant in place before we
15 exhaust the initial \$55 million.

16 --o0o--

17 AIR POLLUTION SPECIALIST PANSON: Let's move on
18 to the next category, which is light-duty vehicle equity
19 projects. The legislature directed \$80 million to this
20 category with the requirement that at least 60 million be
21 allocated to the EFMP and EFMP Plus-up scrap and replace
22 programs and up to \$20 million for the other equity
23 projects.

24 The Board has 2 decisions before it: First, how
25 much to direct to scrap and replace; and second, how to

1 distribute the remaining funding among the other equity
2 projects.

3 We propose \$60 million for scrap and replace,
4 which doubles the allocation we had included in the June
5 funding plan. This should ensure that the existing San
6 Joaquin and South Coast programs have funding through and
7 beyond the 2016-17 fiscal year, in addition to providing
8 funding for other air districts interested in starting
9 programs.

10 We propose no changes in the project allocations
11 for the remaining 4 equity projects shown on this slide.
12 Each would retain its full allocation from the June plan.
13 This follows our guiding principle of keeping the existing
14 plan in tact where possible.

15 --o0o--

16 AIR POLLUTION SPECIALIST PANSON: Because this is
17 such a large increase in scrap and replace funding, we
18 propose a phased approach to awarding funding as shown on
19 this slide. We'd make \$40 million available upon Board
20 approval of our proposal, with the bulk going to the 2
21 existing programs. We'd reserve the remaining \$20 million
22 to allocate next spring based on air districts' funding
23 need projections.

24 We've talked to each of the districts that runs
25 or is interested in starting a program and they support

1 this approach.

2 Looking beyond this budget cycle, new legislation
3 which changes the requirements related to investments in
4 disadvantaged communities may impact the geographic reach
5 of these programs in future years.

6 --o0o--

7 AIR POLLUTION SPECIALIST PANSON: Now, moving on
8 to heavy-duty. The legislature appropriated \$150 million
9 for heavy-duty vehicle and off-road equipment projects,
10 \$25 million less than we had included in the funding plan.

11 The legislature did not specify how we should
12 modify the plan to reflect the lower funding level. They
13 left that decision to the Board. The funding plan
14 allocates funding to 7 project categories. These include
15 pre-commercial advanced technology demonstrations, early
16 commercial pilot deployments, and voucher incentives. We
17 believe each of these categories could benefit from
18 additional funding. However, demand is greatest in the
19 early commercial pilots and the voucher incentive
20 projects, as documented by the greatly oversubscribed zero
21 emission truck and bus pilot commercial deployment
22 solicitation, where we have already selected projects and
23 are just waiting for funding, and the current HVIP waiting
24 list.

25 We also heard this in comments received during

1 plan development and at the June Board meeting. These
2 represent the most "shovel-ready" projects which can be
3 implemented and deliver emission reductions more quickly
4 than the demonstration projects. Since each of these
5 project allocations are based on projected demand, scaling
6 them back would result in funding shortfalls.

7 Thus, we propose leaving these projects at their
8 full funding plan allocations, and reducing funding for
9 the advanced technology demonstration projects by \$25
10 million.

11 While there's significant interest in these
12 demonstration projects, we have not yet released
13 solicitations for them. We believe good projects could
14 still be funded even at this reduced funding level, and we
15 recommend primarily focusing these demonstration funds on
16 projects that support our sustainable freight effort.

17 We also propose to increase the maximum incentive
18 amount for low-NOx engines with renewable fuel to cover
19 the full incremental cost up to \$25,000. This is based on
20 public comments and Board input received during the June
21 board meeting.

22 --o0o--

23 AIR POLLUTION SPECIALIST PANSON: This next slide
24 visually displays the proposed changes I just described.
25 As you can see, there are no changes to 6 of the 7 project

1 categories. This maximizes funding in areas with the
2 clearest documented demand, and follows our guiding
3 principle of minimizing changes to the plan where
4 possible.

5 Taken as a whole, these investments support a
6 broad range of clean and efficient vehicle technologies
7 with funding opportunities for diesel, hybrid, natural
8 gas, battery electric, and fuel cell engine technologies,
9 as well as engine efficiency improvements and use of
10 renewable -- of low carbon renewable fuel.

11 --o0o--

12 AIR POLLUTION SPECIALIST PANSON: Before closing,
13 I'd like to briefly review how the full suite of
14 investments covered in this funding plan is part of our
15 coordinated strategy to make progress towards ARB's
16 multiple climate change and air quality goals.

17 Most of our funding comes from cap-and-trade
18 auction proceeds. Hence, there's a primary focus on
19 investments that reduce greenhouse gas emissions and
20 benefit disadvantaged communities. But we have also
21 designed these investments to support the Governor's
22 climate pillars of short -- of reducing short-lived
23 climate pollutants and petroleum use, provide emission
24 reductions for the SIP and the Sustainable Freight Action
25 Plan, and reduce diesel toxics emissions. As this slide

1 shows, most of these projects achieve multiple
2 co-benefits.

3 Stepping back, I'll note that we develop all of
4 our funding programs with the objective of achieving
5 multiple co-benefits where possible. Looking ahead, as we
6 integrate VW mitigation funds into our suite of funding
7 programs over the next year, we'll continue designing our
8 incentive portfolio, so that each program complements one
9 another.

10 --o0o--

11 AIR POLLUTION SPECIALIST PANSON: In closing, our
12 proposal addresses the smaller budget appropriation and
13 additional legislative direction while keeping much of the
14 already approved funding plan in place.

15 We recommend that the Board approve the proposed
16 modifications. This concludes my presentation.

17 CHAIR NICHOLS: Thank you. Well, considering
18 that we definitely took a haircut, it seems like you've
19 found a way to allocate it that preserves the thrust of
20 all of these programs and does it in a way that reflects
21 priorities. So I think that's -- I see that most of the
22 people who've signed up are also supportive, which is
23 always good to see, but we obviously have a few how
24 aren't. And in any event, we need to hear from everybody.
25 So why don't we just start the list.

1 BOARD MEMBER GIOIA: I have a staff -- a question
2 of staff just to understand something?

3 CHAIR NICHOLS: Certainly. Go ahead.

4 BOARD MEMBER GIOIA: So quick question. On the
5 so -- on the scrap and replace program on slide 12, I want
6 to make sure I understand. The -- of the \$4 million that
7 will be immediately allocated, what -- I understand
8 there's clearly an income eligibility, but what percent of
9 the funds need to be spent either in or to benefit a
10 disadvantaged community? Because the issue of whether
11 they live in the disadvantaged community or not, they're
12 eligible.

13 AIR POLLUTION SPECIALIST PANSON: That's a good
14 question. A hundred percent of these funds must be spent
15 to benefit disadvantaged communities, meaning the person
16 who would be applying either lives in a disadvantaged
17 community census tract or a zip code that contains a
18 disadvantaged community census tract. That was a
19 requirement in the June plan that was approved, and we
20 haven't changed it in this plan.

21 BOARD MEMBER GIOIA: Right. So the definition of
22 benefit in this case is living in the same zip code as the
23 disadvantaged community, even if they're not technically
24 in the disadvantaged community.

25 AIR POLLUTION SPECIALIST PANSON: Yes, that's

1 correct.

2 BOARD MEMBER GIOIA: Okay. And so -- so -- and
3 that raises an issue on the 10 million reserve for other
4 districts. And I'll just take the case of the Bay Area.
5 There's been this ongoing issue of whether there
6 CalEnviroScreen reflects appropriately all the
7 disadvantaged communities in the state.

8 And because such a small geographic area within
9 the Bay Area are within these disadvantaged -- or within
10 disadvantaged communities, it really limits the ability to
11 implement a program like this in the Bay Area, because
12 while there may be a lot of lower income residents
13 adjacent, near, they're not in or in the same zip code.

14 So that really raises the question of the
15 CalEnviroScreen tool. Yeah. So -- but I understand it.
16 I wanted to get clarity here. It -- so it limit -- it
17 will -- this will limit the applicability of the program.

18 Can you tell me a little bit -- just bring us up
19 to date on the recent -- or maybe not recent, but the view
20 forward about looking at the EnviroScreen tool? And I
21 know it's gone through several iterations. We're in a new
22 version. There's been new issues that have been raised
23 again, so what are we looking at in terms of the view on
24 that?

25 DEPUTY EXECUTIVE OFFICER CHANG: So the

1 CalEnviroScreen tool is developed by OEHHA.

2 BOARD MEMBER GIOIA: Right.

3 DEPUTY EXECUTIVE OFFICER CHANG: And CalEPA,
4 under statute, uses that to identify the disadvantages
5 communities. And that's the criteria that we use in the
6 Greenhouse Gas Reduction Fund Programs.

7 OEHHA is actually right now in the process of
8 updating CalEnviroScreen. They did a series of workshops,
9 I think, last month throughout the State to look at new --
10 you know, they have some updates to the criteria. Some of
11 it was related to some of the concerns that have been
12 expressed by some of the regions in California about how
13 well CalEnviroScreen represents different communities in
14 different regions.

15 They are in the process of finalizing, and I
16 think they're supposed to finalize either towards the end
17 of this year or early next year. After that, the
18 Secretary of CalEPA would have an opportunity to update
19 the CalEnviroScreen disadvantaged communities for the
20 purposes of greenhouse gas reduction fund.

21 BOARD MEMBER GIOIA: And the other question I
22 have, I know we're kicking off a pilot program on
23 financing clean cars for low-income residents again in
24 disadvantaged communities. I'm familiar with that. And
25 so on slide 11, the \$6 million that's listed for

1 low-income financing assistance. Maybe I didn't
2 understand when it indicates that -- oh, okay, so that --
3 that's set amount. That's -- that is the category of \$20
4 million on this page, the car sharing mobility options
5 down through low-income financing assistance are going to
6 be specific allocations.

7 And again, what -- and all of those are -- need
8 to be spent to benefit disadvantaged communities as well?

9 AIR POLLUTION SPECIALIST PANSON: No.

10 BOARD MEMBER GIOIA: No.

11 AIR POLLUTION SPECIALIST PANSON: Yeah, that's
12 another good question. In the case of the low income
13 financing assistance, last year, the \$1 million that went
14 to that did have the requirement that it benefit a
15 disadvantaged community.

16 Looking to grow the program, we realized there's
17 benefit in helping low-income consumers regardless of
18 where they live.

19 BOARD MEMBER GIOIA: Right.

20 AIR POLLUTION SPECIALIST PANSON: And so that
21 low-income financing assistance program would be
22 statewide -- available statewide --

23 BOARD MEMBER GIOIA: Got it. Got it.

24 AIR POLLUTION SPECIALIST PANSON: -- with an
25 income limit.

1 BOARD MEMBER GIOIA: So this 6 million of
2 low-income financing can assist -- which really helps
3 broaden the program statewide to low-income residents
4 anywhere in the State. Whereas, the amounts under the \$60
5 million allocation, which we're allocating 40 immediately
6 to scrap and replace, must be to benefit disadvantaged
7 communities.

8 Okay. And is it the same with these other 3 --
9 these other 3 categories? Are those all -- these are all
10 then to eligible individuals, but not necessarily in
11 disadvantaged communities or not?

12 AIR POLLUTION SPECIALIST PANSON: No, the
13 low-income financing assistance is the only one where we
14 relaxed the requirement. The others are a benefit --

15 BOARD MEMBER GIOIA: That answers my question. I
16 appreciate that. Okay.

17 BOARD MEMBER TAKVORIAN: Can I ask a follow-up
18 now that --

19 CHAIR NICHOLS: Yes.

20 BOARD MEMBER TAKVORIAN: So in regards to the
21 low-income financing assistance, what's the eligibility
22 threshold?

23 AIR POLLUTION SPECIALIST PANSON: That's a
24 program that is still under development. We're going to
25 release a solicitation -- a competitive solicitation for

1 it, but it's going to be open to those with incomes of 400
2 percent or less of the federal poverty level. And that
3 matches the income limits for the EFMP Scrap and Replace
4 Program. We think those 2 programs could, and we hope
5 that they link up, and so it makes sense to have the
6 eligibility -- the income eligibility limits link up as
7 well.

8 BOARD MEMBER TAKVORIAN: Okay. And for the scrap
9 and replace, is it -- is it the 25 percent -- the
10 CalEnviroScreen and the top 25 percent?

11 AIR POLLUTION SPECIALIST PANSON: Yes. It's
12 the -- when OEHHA identified the top 25 percent, there are
13 maps associated with that. And, in this case, it's open
14 to people living in zip codes that contain those census
15 tracts. And those zip codes are listed on our webpage,
16 and there's a -- there's a map associated with that. So
17 it's very clear to potential applicants what zip codes are
18 apart of the program.

19 BOARD MEMBER TAKVORIAN: Right, but I was just --
20 I was just confirming that it was the top 25 percent as
21 indicated by CalEnviroScreen.

22 AIR POLLUTION SPECIALIST PANSON: (Nods head.)

23 BOARD MEMBER TAKVORIAN: And that would be the
24 new version?

25 AIR POLLUTION SPECIALIST PANSON: This year's

1 money would operate under the old version, the current
2 version. The new version hasn't been finalized yet. And
3 so we're already a third of the way into the fiscal year,
4 we need to get moving with this money. And so we're
5 operating under the version that really is the final
6 approved version at this point in time. I believe that
7 the new version would apply to next year's money.

8 BOARD MEMBER TAKVORIAN: Okay. Thank you.

9 CHAIR NICHOLS: Other questions before we hear
10 from witnesses?

11 BOARD MEMBER GIOIA: Thank you for letting us ask
12 those questions.

13 CHAIR NICHOLS: Okay. Thank you. All right.

14 We should start with the San Joaquin Valley
15 District actually. Because although they signed up late,
16 we're in their home district. So Mr. De Young, would you
17 come to the podium and then we'll go to Larry Greene.

18 MR. De YOUNG: Good afternoon, Madam Chair,
19 members of the Board. My name is Todd De Young. I'm the
20 grants program manager here at the San Joaquin Valley Air
21 District. And again, it's a pleasure to have you here
22 with us today.

23 First, I'd like to start off by saying that the
24 district supports the proposed modifications to the low
25 carbon transportation and fuels investment, and the AQIP

1 programs. We're appreciated working with your staff on
2 crafting a well thought out and reasonable plan for
3 allocating these important funds, with a continued focus
4 on benefit to environmental justice in disadvantaged
5 communities.

6 However, in light of the recent discussion in the
7 previous item regarding the district's PM2.5 plan, and to
8 show your support for this new policy position, we would
9 urge you to direct staff to craft these programs that
10 dedicate additional funding to the valley to provide
11 additional meaningful reductions to our PM2.5 plan, in
12 areas such as additional funding for low-NOx engines, for
13 renewable fuels and advanced technology demonstrations and
14 school buses.

15 The San Joaquin Valley has been very successful
16 in competing for and administering a variety of projects
17 utilizing these critical funds, including the highly
18 successful Enhanced Fleet Modernization and Plus-up
19 Programs.

20 However, there are still significant
21 discrepancies in funding allocations through programs such
22 as CVRP, where only 2 to 3 percent of those funds actually
23 come to the valley through this program.

24 We'd like to continue to work with your staff in
25 the coming months to ensure that the valley's significant

1 needs are addressed in the planning effort.

2 Thank you very much.

3 CHAIR NICHOLS: Thank you. Mr. Greene.

4 MR. GREENE: Good afternoon. I'm Larry Greene.

5 I'm the director the Sacramento Metropolitan Air Quality
6 Management District. We very much support the staff
7 recommendations to fund the Low-Income Transportation
8 Program and Fuels Infrastructure Program. Our program
9 that I'm here to speak to is the Sacramento Regional Zero
10 Emission School Bus Deployment Project, and it's part of
11 this investment.

12 We very much appreciate the work that staff has
13 done in helping us put this together. They've been
14 instrumental in us getting to this point. This pilot
15 project will place 29 zero emission school buses on routes
16 in disadvantaged communities in the Sacramento region. We
17 have many partners in this project. We're putting up 1.6
18 million in match. Elk Grove, Sac City, and Twin Rivers
19 Unified School Districts are putting over \$4.5 million in
20 match and in-kind investments, and SMUD has agreed to
21 put -- to fund all of the infrastructure for new
22 equipment, for charging infrastructure, and any required
23 upgrades. So they will fund that. They put up to a
24 million dollars in their budget to cover that.

25 The project is ready to go pending your approval,

1 and staff's completion of their guidelines. And we
2 will -- we're -- we think SMUD is inputting infrastructure
3 in today, getting ahead of the power curve.

4 We look forward to implementing this program. We
5 think it's the largest electric school bus program in the
6 nation. We also are implementing an electric car share
7 program. And we very much are interested in the EFMP
8 Plus-Up Program. We're one of those other districts. And
9 we've already been working with staff extensively to
10 prepare ourselves, so that we're ready to go with that
11 program, and we will implement that.

12 And we may be able even to implement that in some
13 of the other low-income areas in our region. We're just
14 started talking about that as we sat back here.

15 So thank you very much.

16 CHAIR NICHOLS: I see these meetings have
17 multiple benefits.

18 (Laughter.)

19 MR. GREENE: They do.

20 CHAIR NICHOLS: They're not just single purpose.
21 Okay. Chris Brown? Oh, no. Henry Hogo. Sorry.

22 MR. HOGO: Good afternoon, Chair Nichols and
23 members of the Board. Henry Hogo with South Coast AQMD.

24 I just want to offer the South Coast AQMD staff
25 support of the revised funding allocation plan. It's a

1 very important plan to move forward.

2 I do want to speak a little bit on the EFMP
3 Program. And it's been a very successful program in our
4 region. With local funding and the EFMP dollars, to date,
5 we have funded over a thousand vouchers, and 1,025 to be
6 exact, but a little bit over a thousand. And we look
7 forward to continuing this program.

8 We still have a waiting list of people. We
9 process them as quickly as possible. We're in the process
10 of evolving our current program to make it more effective
11 and very efficient, so that when we see additional funding
12 come in, we can move forward very quickly. So with that,
13 I want to thank staff for working with us on this program,
14 and moving forward.

15 I do want to conclude that we support the
16 discussions between CAPCOA and your staff in how to
17 effectively implement the funding from the Low Carbon
18 Transportation Program. It's very important that the air
19 districts work together with ARB staff in having a very
20 effective implementation program, given that we've already
21 gone a third of the year into the fiscal year.

22 Thank you.

23 CHAIR NICHOLS: Thank you.

24 BOARD MEMBER TAKVORIAN: Madam Chair, can I ask a
25 question?

1 CHAIR NICHOLS: Yes, go ahead. Question.

2 BOARD MEMBER TAKVORIAN: I'm sorry. I just
3 wanted to know, do you have demographic data, income data
4 on those folks that have taken advantage of the program?

5 MR. HOGO: Yes, we do. Just quickly, over 94
6 percent of the vouchers approved are in disadvantaged
7 communities. And they're -- the breakdown of the
8 household income, the majority are in the 225 percent and
9 below poverty level. So we -- actually, ARB staff have
10 all the detailed data.

11 But we're seeing a very good response from lower
12 income and disadvantaged communities. We do know that
13 looking region-wide most of the applicants are from the
14 Los Angeles county region. With the new monies, our focus
15 will be on the Inland Empire and Orange County region. So
16 we want to --

17 BOARD MEMBER TAKVORIAN: Thank you.

18 MR. HOGO: -- make sure it's a widespread
19 program, but in our region.

20 And I do want to say that for the other air
21 districts, we have begun discussions with Larry and his
22 staff on how to implement a program in Sacramento. And
23 we're more than happy to help other air districts as they
24 look towards implementing the program. It's not an easy
25 program to do. It's not like the Moyer program

1 definitely.

2 CHAIR NICHOLS: Right.

3 BOARD MEMBER TAKVORIAN: Okay. Thank you so
4 much.

5 CHAIR NICHOLS: Well, I do think it's a good idea
6 though apropos of the question that you were just asked
7 to -- as soon as we have enough data, and I'm not quite
8 sure what enough is, but if it's a year's worth, or 6
9 months worth, or whatever, but about where the grants are
10 going, just to be able to report that publicly.

11 There's a lot of interest in this. And I think
12 it would be very helpful to our long-term efforts to
13 maintain funding.

14 AIR POLLUTION SPECIALIST PANSON: Yeah, and we do
15 actually have, you know, some of that data. Between the 2
16 programs, with the first 1,400 scrapped vehicles, 94
17 percent of those transactions went to consumers at less
18 than 225 percent of the federal poverty level. So this
19 program really is hitting that -- the lower income
20 consumers.

21 CHAIR NICHOLS: That's great.

22 DEPUTY EXECUTIVE OFFICER AYALA: And just to be
23 clear, the data is in the actual plan that the Board gets
24 from the staff. So some of the statistics are readily
25 available.

1 CHAIR NICHOLS: Well, good.

2 BOARD MEMBER TAKVORIAN: Thank you.

3 CHAIR NICHOLS: We need to figure out how to
4 package it in a way, so that people -- not just us, but
5 outside people can follow it as well. That would be
6 helpful.

7 Okay. We'll put Stanley to work on this one --
8 (Laughter.)

9 CHAIR NICHOLS: -- wherever he is. Where is
10 Stanley now that we need him.

11 Okay. Welcome.

12 BOARD MEMBER RIORDAN: There he is in the back.

13 CHAIR NICHOLS: There here is. He's listening --
14 listening carefully.

15 MR. BROWN: Hello. Good afternoon. I'm Chris
16 Brown. I'm AICP, Air Pollution Control Officer for
17 Feather River Air Quality Management District, which is
18 Sutter and Yuba Counties.

19 And, you know, I'm here mainly to speak in
20 support of the Rural School Bus Program. I actually --
21 when I was in Mendocino county, we started running a
22 school bus program back in the early 2000s. It was a very
23 successful program. Very popular in the local community.
24 That was before we had the AB 923 program. We were doing
25 it with local dollars. And I think there's sometimes a

1 disconnect between urban and rural California. I know
2 that may come as a shock.

3 (Laughter.)

4 MR. BROWN: But, you know, just looking at median
5 household income in California, I'm just going to read off
6 a number of counties here. This is kind of in order of
7 the lowest, which is Lake County, Trinity County, Siskiyou
8 County, Modoc Community, Del Norte County, Glenn County,
9 Imperial County, Humboldt County, Tehama County. And as
10 somebody who grew up in Los Angeles, I couldn't find those
11 locations on a map growing up.

12 (Laughter.)

13 MR. BROWN: And the last one on here is Tulare
14 County, which of course is in the valley here. And a lot
15 of these school districts have a very large area to cover.
16 They have a few number of students. They have a small tax
17 base, because there's a lot of Forest Service land. They
18 don't necessarily have the funding to run a transportation
19 program that's actually needed. There isn't an
20 alternative in a lot of these communities. You can't go
21 catch a transit bus. You can't ride the subway to work or
22 to school, and the -- so a lot of these buses are older
23 buses.

24 The buses they need to buy have steeper grades to
25 climb, they have poorer roads, so they may need to be

1 upgraded with heavier breaks, heavier duty
2 air-conditioning systems. They may have to deal with
3 snow, all kinds of different challenges. And that
4 consumes more fiscal resources.

5 So what happens is the buses get older, and the
6 buses, as they get older, the emissions get higher, and
7 the wear and tear gets higher, the maintenance costs get
8 higher, and you get into a vicious cycle.

9 And in addition to that you don't have the
10 options for alt fuels like you do in other areas. We have
11 counties in California -- one of my counterparts is going
12 to get up in minute -- they don't have natural gas. So
13 you can't put natural gas buses in when you don't have
14 natural gas. You have to use propane, you know.

15 And electric buses have come a long way. And I
16 think now this is a good program that can give us the
17 opportunity to get them out, and let people see them. In
18 rural communities, they haven't had an opportunity lately.
19 And the final note I'd add is, as a parent who had kids in
20 one of these communities, my kids were on the bus for 3
21 hours a day. The bus they were on, you know, was a
22 2-stroke bus. It was built in the seventies initially.
23 We replaced it with grant money. Felt good about that.

24 But for 3 hours every day these kids are on these
25 buses. It's very different, I think, from the urban

1 experience where it may be an hour or 2. They may go to
2 multiple schools and pick up kids at different schools
3 before they get back home.

4 CHAIR NICHOLS: Right. It's a very good use of
5 the advanced technology, because they're on a fixed cycle.
6 It's a predictable time. It's really a very nice synergy
7 there. So we agree.

8 MR. BROWN: Yeah. And I think my board is very
9 supportive of this too. We've dedicated a lot of our
10 funding in Feather River to school buses as well.

11 CHAIR NICHOLS: Great. Thank you.

12 MR. BROWN: Thank you.

13 MR. GEARHART: Good afternoon. My name is Doug
14 Gearhart. I'm with the -- I'm the Air Pollution Control
15 Officer for the Lake County Air Quality Management
16 District. And as my counterpart just mentioned, we are
17 listed as the poorest county in the State of California.

18 But that being said, you know, I'm here to really
19 express our support for the rural school bus program. It
20 comes across as something that's very needed, very
21 positive for our rural areas.

22 And, you know, it's an example of what can be
23 done to promote emissions reductions, clean air, low
24 carbon fuel options throughout the State, not just in the
25 urban areas, not just in the transportation corridors.

1 The rural areas, you know, they hear programs, they hear
2 about all these things, but they actually never see the
3 equipment, they never see the bus. So getting some of
4 the -- a little bit of funding out there to get these
5 things out into the rural areas really will -- it helps
6 the publicly, it helps the PR, and it helps, you know,
7 with the clean air and helps protect the air that these
8 kids breathe.

9 As stated in the proposed plan, you know, the
10 rural school districts really do have serious funding
11 opportunity limitations, you know, revenue for school
12 districts in rural areas is very limited, especially just
13 to maintain their school -- you know, the school bus
14 routes, just to maintain drivers, just to keep the buses
15 on the road is very challenging, much less trying to buy
16 something new and get something that's cleaner out on the
17 road.

18 We don't have natural gas at all in Lake County.
19 There's not a single natural gas line in the County of
20 Lake. We actually had to argue with PG&E about that.
21 They thought they did, and they couldn't find it on their
22 map, so they finally agreed with us.

23 (Laughter.)

24 MR. GEARHART: You know, it's just -- it's one of
25 those things that you think is everywhere. Well, it's not

1 everywhere. You know, in Lake County, you know, with the
2 natural disasters we've had the last 2 years, tax revenue,
3 revenue for the schools is significantly impacted. The
4 school districts are now busing people -- busing children
5 a lot farther, because people have been relocated. They
6 haven't moved back into the exact area, so they're running
7 their buses to farther out areas to catch the people that
8 are actually in the district that are working to rebuild,
9 so they're putting a lot more miles, a lot more hours on
10 these buses, and doing -- you know, finding funding to
11 help upgrade and get these things cleaner and reduce
12 exposure is definitely a very positive thing. And we are
13 definitely very much in favor of it, and very supportive
14 of this.

15 I do want to specifically thank staff for working
16 with this and coming up with these options and making
17 it -- you know, it's not a huge amount of money, but a
18 little bit amount of money in the rural area goes a long
19 way. So we do really appreciate that, and I do have a
20 representative from one of our local school districts who
21 will come up and, you know, I hope give you a little
22 information on what -- you know, what a rural school
23 bus -- you know, school district and school bus program is
24 really about.

25 You know, I can't say it enough, we really

1 appreciate this program. Now, with the whole funding
2 plan, there are a lot of good things in the funding plan.
3 And I would hope that some day in the future -- I'm not
4 saying today, but in the future, some of these things, as
5 they mature and develop, can be made simplified, so that
6 they can be expanded into the more rural areas. There are
7 a lot of beneficial programs, and getting them out in a
8 simple -- you know, simple method that the rural areas can
9 take advantage of is really a benefit.

10 So thank you very much, and we are definitely
11 very much in support of this.

12 MR. STEINBERGER: Good afternoon, Madam Chair,
13 members of the Board. My name is Joe Steinberger. And
14 I'm with the Bay Area Air Quality Management District.
15 I'm here today to speak in favor of the proposed modified
16 2016-2017 funding plan for air quality improvement
17 program, and low carbon transportation investments.

18 I'd first like to thank Mr. Corey and his staff
19 for their prudent efforts in reducing allocations in the
20 funding plan, while maintaining its effectiveness. The
21 plan, as modified, still strongly supports zero and near
22 zero emission technologies, reduces a significant amount
23 of greenhouse gases emissions, and bolsters the momentum
24 established in the 2015-2016 plan.

25 Their district strongly supports the modified

1 plan, which would allow us to move forward on 2 projects
2 that have already received so tentative approval from ARB
3 staff. These projects were submitted under the Zero
4 Emission Truck and Bus Pilot Commercial Deployment Program
5 and our board has already approved matching funds for
6 these projects.

7 One project is with Goodwill Industries that
8 would fund the purchase of 11 heavy-duty electric vehicles
9 that provide delivery services and workforce development
10 opportunities. The second project would benefit both the
11 Bay Area and the South Coast by deploying 10 hydrogen fuel
12 cell buses for transit agencies operating in each of these
13 air districts.

14 The air district is also highly supportive of the
15 expansion of the EFMP Plus-Up Program beyond the initial
16 pilot areas. This will allow more residents living in
17 disadvantaged communities to access these incentive funds
18 and further our district's efforts to deploy zero emission
19 vehicles in the Bay Area.

20 I would like to reiterate our comments made at
21 your June 23rd meeting by saying that we continue to
22 support the funding for advanced technology pilot
23 demonstration projects, and the focus on enhanced funding
24 for zero emission trucks, buses, off-road equipment, and
25 freight applications. We need to make sure these types of

1 projects remain a funding priority into the future, in
2 order to transition from demonstrations to
3 commercialization.

4 On a final note, in adopting the legislation that
5 authorized the Cap-and-Trade Program, the State made a
6 commitment to our most vulnerable communities. However,
7 the Bay Area Air District is significantly concerned about
8 the uses of CalEnviroScreen, since it misses some of our
9 most disproportionately impacted residents in west
10 Oakland, San Jose, and eastern Contra Costa County.

11 I would like to remind the Board that 24 percent
12 of the greenhouse gases emitted by facilities under the
13 Cap-and-Trade Program are in the Bay Area. However, only
14 2.8 percent of the communities ranked by CalEnviroScreen
15 as being in the top 25 percent of impacted communities in
16 the Bay Area.

17 We will look forward to continuing our
18 partnership with your staff to support the plan and the
19 effective allocation of future State funds.

20 Thank you.

21 MR. WAGONER: Yes. Good afternoon, Chair Nichols
22 and members of the Board. My name is Jim Wagoner. I'm
23 the Air Pollution Control Officer with the Butte County
24 Air Quality Management District. And I'm here to support
25 the staff proposal for the rural school bus pilot program.

1 I will second the comments that my colleagues have just
2 made about the challenges that rural districts face with
3 their school bus fleet, so I won't repeat their testimony
4 here.

5 I want to thank the staff for working with the
6 rural districts and CAPCOA on this program. And finally,
7 just as an aside, since the presentation did mention the
8 black carbon wood smoke, I want to thank your staff for
9 working with CAPCOA on that initiative and getting it into
10 the budget.

11 Thank you.

12 CHAIR NICHOLS: Thank you.

13 MR. SERFASS: Good afternoon, Madam Chairman and
14 Board members. It's great to be here. Jeff Serfass. I'm
15 Executive Director of the California Hydrogen Business
16 Council representing 100 members that make and distribute
17 hydrogen, that manufacture the vehicles, the cars, the
18 buses, trucks indeed, and electric and gas utilities, and
19 government agencies. They have some of the AQMDs,
20 including the Air Resources Board. We're very
21 appreciative of this broad membership, all with a common
22 vision, we think, of energy, transportation, goods
23 movement, fueled by zero emission renewable hydrogen in
24 the long run.

25 Hydrogen is an integrating energy form. And it

1 links these various markets in a very capable way. We
2 support the rebate program. We support the Enhanced Fleet
3 Modernization Programs, because of their impact on
4 building zero emission vehicle fleets. Fuel cell electric
5 vehicles are just at the beginning stage of market
6 development. And while prices are high, these support
7 mechanisms help the consumer make purchases that build the
8 fleets that are so important to reaching the State goals.

9 I'd like to turn to the buses. We appreciate the
10 staff recommendation for funding of the public transit
11 projects in keeping the full amount that was in the
12 original plan. These projects will be funded at AC
13 Transit, Orange County, and Sunline Transit, expand
14 existing fleets and we'll begin to create a new fleet kind
15 of at scale. And that's the important thing, we are at
16 the stage of not needing to demonstrate, but rather to
17 deploy at scale, meaning numbers of buses returning to the
18 same fueling depot, fueling stations that are of the size
19 that are commercial, and that actually lead us, frankly,
20 to a transition to using those size stations in support of
21 zero emission trucks.

22 The transit systems and their buses will serve
23 disadvantaged communities and we need the scale to -- for
24 the industry to continue to develop.

25 We are pleased that these bus projects include

1 infrastructure investments, the fueling stations, for
2 the -- because they will help us in leading to zero
3 emission trucks, and because that's such an essential part
4 for the light-duty vehicles, as well as these.

5 So our vision is energy systems that really tie
6 together the management of the grid and increasing
7 penetration of renewables, cars, buses, trucks, goods
8 movement with renewably based hydrogen.

9 Forty-five percent of the hydrogen in the
10 light-duty vehicle fueling stations is already produced
11 from renewable energy. We're on the right trend. In
12 fact, that's a higher number I think than the renewable
13 component of the electric grid. So it's urgent, I think,
14 that we grow these early market programs and the players
15 that are a part of it, and we -- so that we assure that
16 we're on the trajectory that will meet the State's
17 aggressive emissions greenhouse gas goals.

18 Thank you.

19 CHAIR NICHOLS: Thank you.

20 MR. Le FLORE: Madam Chair, members of the Board,
21 I'm here representing Sunline Transit Agency, and its
22 General Manager, Lauren Skiver, who couldn't be here, but
23 she sends her best.

24 One thing with Sunline Transit Agency, one, for
25 sure, we're in support of staff's recommendation. And we

1 want to note -- want you to know that this investment is a
2 part of Sunline's overall vision going forward in terms of
3 long-term planning. The investment in fueling
4 infrastructure and the investment in vehicles will really
5 help Sunline Transit Agency, with its overall mission.

6 Sunline stands as one of the few transit agencies
7 that it has as a policy the utilization of the cleanest
8 technology available. That's very unique. And Sunline is
9 a JPA made up of 9 cities and the eastern Riverside
10 County.

11 One thing we want you to know is that we've
12 enjoyed working with the staff, and we do have projects
13 that are ready. We're excited to get going seeing that
14 the expiration of the funding is coming soon, so we want
15 to make sure we get going with these projects, but we want
16 you to know that this is an exciting partnership. I was
17 fortunate enough to be involved in purchasing one of the
18 first American fuel cell buses. It was around \$5 million.
19 Now, we're around \$1 million. We're talking about
20 progress, and I've seen that, and we're talking about
21 speeding towards commercialization, so I'm excited about
22 the project. And I want to thank you and we
23 wholeheartedly support staff's recommendation.

24 CHAIR NICHOLS: Thank you.

25 MR. BOUWKAMP: Madam Chair, members of the Board,

1 good afternoon. My name is Nico Bouwkamp with the
2 California Fuel Cell Partnership. Two days ago we, may I
3 sigh, finally published a medium-, heavy-duty fuel cell
4 truck action plan for California. I'd like to share with
5 you a few highlights of the document, I submitted it,
6 so -- for your later reading pleasure. It's not -- it's
7 more of a future thinking, and that's why I want to submit
8 it.

9 It's an attempt to support the development of
10 fuel cell trucks into the future. The 2 highlights of
11 this document are that there is a need for fueling
12 infrastructure for heavy-duty and medium-duty fuel cell
13 trucks. Those vehicles cannot fill at passenger hydrogen
14 stations as Mr. Serfass from the California Hydrogen
15 Business Council just referred to, there is great progress
16 made there, but those vehicles cannot fill there. Where
17 those vehicles will fill in the future hopefully is at
18 larger stations that can -- are similar to the ones used
19 for fuel buses. So with that, it's important to continue
20 fuel cell buses.

21 The second point of this document is to focus
22 attention for fuel cell trucks on medium-duty Class 4 to 6
23 last-mile delivery package delivery vehicles and trucks,
24 like the kinds you see for UPS and FedEx that you may see
25 in your neighborhood on a regular basis. I don't know

1 what neighborhood you live in, but I assume that's the
2 case.

3 As I said, again, the other class of vehicles are
4 focused on our Class 7 and 8 -- short-haul -- short-haul
5 drayage trucks. They're not known for drayage trucks by
6 the truck manufacturers, but they are sold as short haul,
7 sometimes as long-haul trucks, but it's not -- that's not
8 how they're used.

9 Another contextual aspect of all of this is to
10 consider the sustainable business case for trucks. There
11 are many aspects that make up a sustainable business case
12 for trucks to be successful, and that should be
13 considered, in this case, as well, and it's often
14 overlooked.

15 And I received input from several stakeholders,
16 including the truck industry that that really has to meet
17 the needs of making a truck successful, whatever kind of
18 truck it is really. And this also applies to fuel cell
19 trucks.

20 The document includes 14 high priority
21 recommendations, and it assigns each one of these
22 priorities to a group. Maybe -- it could be federal
23 governments, State government, or industry. And in some
24 cases, it's a collaborative effort, but it's important to
25 work on those, so that could be the future for fuel cell

1 trucks.

2 There are 20 other recommendations. And I will
3 leave you with that, and thank you for your time.

4 CHAIR NICHOLS: Thank you.

5 Just in case anybody is unaware that Air
6 Resources Board is a charter member of the California Fuel
7 Cell Partnership, so we are privy to this.

8 MR. NORRIS: Good afternoon.

9 CHAIR NICHOLS: Hi.

10 MR. NORRIS: My name is Dave Norris. I'm with
11 Lakeport Unified School District. I'm the director of
12 maintenance, operations, and transportation. I'm here in
13 support of the \$10 million School Bus Replacement Pilot
14 Program for small disadvantaged communities. Lakeport is
15 a small rural town. We are on the west shore of Clear
16 Lake in Lake County, approximately 150 miles northeast of
17 San Francisco.

18 The Lakeport Unified School District has an
19 enrollment of approximately 1,536 students at this time.
20 And we provide transportation services to about 510 of
21 them. Lakeport applauds the School Bus Replacement Pilot
22 Program, which will reduce emissions caused by our older
23 polluting school buses, and protect our school children
24 from being exposed to both cancer-causing and smog-forming
25 pollutants in and around the school buses.

1 Lake County has a relatively high poverty rate.
2 As in many low income areas, we have a high percentage of
3 students qualifying for the free and reduced meal program
4 based on family income, English learners, and homeless.
5 These are our unrepresented pupils. And we have about 61
6 percent of them that qualify.

7 For many of our students, the yellow school bus
8 is the only option for transportation to and from their
9 school. Many of the families do not have cars or the
10 parents work in the agriculture and leave far too early to
11 provide rides for their students -- for their children. I
12 appreciate ARB's effort and hard work and the allocation
13 of the \$10 million towards the School Bus Replacement
14 Program, and would hope to see this program continue into
15 the future.

16 I've been doing this for 35 years, and the School
17 Bus Replacement Program that we used to have basically
18 replaced our buses. Without that, we would not have been
19 replacing buses. School districts simply don't have that
20 kind of money, so this is a great program.

21 Transporting students in a clean and safe bus is
22 clearly the best choice for the environment and our
23 children.

24 Thank you very much.

25 MS. MORROW: Madam Chair, members of the Board,

1 as the sheet says, my name is Colby Morrow and I'm with
2 SoCalGas. And I'm pinch-hitting today for Jerilyn López
3 Mendoza who happens to be ill unfortunately. She was here
4 and she got sick.

5 So serendipitously I live in Fresno. I work in
6 the San Joaquin Valley. And my intent today is that I'm
7 going to set the stage for the following 2 gentleman who
8 are our partners. And I just want to say that I'm with
9 Board Members Ms. Mitchell and Dr. Sherriffs who
10 unfortunately it looks like he's gone, but the San Joaquin
11 Valley and the South Coast we need more NOx reductions and
12 we need them now.

13 As you heard during the last Board item, there --
14 many of us who come and testify before you and who live in
15 the San Joaquin Valley have very personal reasons for our
16 testimony, and I'm no different. I've talked a number of
17 times in different workshop forums about my mother who is
18 one of the few who can actually say after five years of
19 being -- after being diagnosed that she's a lung cancer
20 survivor. The current rate I believe is somewhere between
21 8 and 13 percent who are diagnosed who actually live for
22 five years.

23 And then just today, my husband was diagnosed
24 with pneumonia last week. And this is of particular
25 concern to both of us, because last fall he had pneumonia

1 as well. And just last night he said to me, maybe we need
2 to think about moving out of the valley, which is -- my
3 son has grown up most of his life here. It's just really
4 not something I look forward to.

5 So given all the testimony today and the
6 disparate need for more NOx reductions, we respectfully
7 ask the Board to allow that the ultra low-NOx natural gas
8 vehicles compete for the heavy-duty freight and transit
9 funds. And we believe that these natural gas vehicles are
10 very cost effective, in terms of the lower number of
11 dollars per ton of emissions reduced.

12 And thank you very much

13 MR. KENNY: Hi. Good afternoon, members of the
14 Board, Chair Nichols, staff. My name is Ryan Kenny. I'm
15 with Clean Energy. We are the nations largest provider of
16 renew natural gas and natural gas transportation fuel.
17 You all have a very difficult job, because you have so
18 many stakeholders asking for money and there's so many of
19 you.

20 So we sympathize with that, but at the same time,
21 we are opposed to the funding plan as it is, and I'll
22 explain why. First, the policy environment is different,
23 we feel, today versus in June. Number one, the GGRF
24 visibility is clearer. The legislature, from what we
25 understand, is unsure that further GGRF will be

1 appropriated next year. Also, what we did not see in the
2 staff presentation, and also elsewhere is legislative
3 intent.

4 The Assembly did send a letter to ARB expressing
5 legislative intent, and that has not been seen at least in
6 the materials that I've seen. But in it, we feel that
7 they expressed their intent to be more deployment, less on
8 pilot and demonstration projects.

9 They also specifically twice mentioned their
10 intent to have more deployment of heavy-duty vehicles
11 using a 0.02 NOx engine using renewable fuels. That's
12 twice. No other technology was actually expressly
13 mentioned in the letter.

14 The they as said quote, "We intend that vehicles,
15 from an array of technologies, receive an appropriate
16 share of these funds." And we do believe that it is
17 tilted significantly away from low-NOx engines that meet a
18 0.02 NOx standard, and it's on other technologies and also
19 even Class 4 to 6 and away from the heaviest of vehicles,
20 which, as we've heard today, we need those now. The
21 immediacy is clear, the health benefits are clear, and
22 we're concerned about the money going towards 4, 5, and 6
23 and not a minimum of 26,001 pounds.

24 So we do think the amount that's in there is too
25 low to meet legislative intent, and also effectively to

1 meet the health benefits and NOx standards for the federal
2 attainment needs.

3 There is, for instance, a item -- there's \$60
4 million right now in there going towards zero emission
5 trucks and buses. Some of that money could be defrayed
6 towards immediate needs of deployment of 0.02 NOx engines.
7 We do think the policy should not be specific winners and
8 losers, but actually on performance standards. And we
9 don't think that this funding plan does reflect that at
10 this point.

11 So those are my comments. Thank you.

12 CHAIR NICHOLS: Okay. Thank you.

13 MR. LAWSON: Good afternoon, Chair and Board
14 members. Thomas Lawson with the California Natural Gas
15 Vehicle Coalition. I want to add my support of the
16 comments that were made throughout today in support of
17 reducing NOx emissions here in the valley, and in other
18 areas all over the State.

19 One of the things that I think is interesting
20 that has changed, because we were officially in support of
21 AB 1613. And we were also in support of a lot of the
22 climate bills that went through the legislature this year.
23 One of the things that, you know, from talking with staff
24 was noted that this has kind of turned into one-time
25 money.

1 You know, I think in June we thought we were
2 going to get multiple bites at the apple. And I think
3 with the large allocation from the legislature, and even
4 from talking with legislative budget staff, that they're
5 not sure what they're going to do next year and where that
6 money is going to come from.

7 The reason why that's important to us is that we
8 believe that there's going to be new technologies that are
9 going to becoming to trying to get themselves commercially
10 viable between now and when this money is going to be
11 spent. And so somehow we want to figure out a way to
12 continue to encourage folks to invest in those
13 technologies, specifically the 12-liter Cummins Westport
14 engine that's coming out that's working its way through
15 the process, as well as one of our newer friends, the
16 American Power Group, they have some technology that's
17 going to benefit, which I think is of interest to the
18 Board older trucks, and then also deal with 13-liter and
19 larger engines in making those cleaner.

20 So there's a lot of things in the works. There's
21 companies that are investing right now. And so we feel
22 like, you know, that's one of the things that's changed.
23 And so I think we all acknowledge there's not enough money
24 to do everything that we want to do. But we do think that
25 competition is important, so we ask that, you know, in the

1 2 zero-emission pilot projects, truck and bus, that we
2 open those up to include near zero and allow us to compete
3 for those funds. And I think that would be an appropriate
4 way to kind of handle what's going to happen the next 2,
5 3, 4 years.

6 So I appreciate your time and thank you very
7 much.

8 BOARD MEMBER SERNA: Chair Nichols?

9 CHAIR NICHOLS: Um-hmm.

10 BOARD MEMBER SERNA: Could I ask the speaker to
11 remain at the podium to answer a question?

12 CHAIR NICHOLS: Oh, yes. Come back, please.

13 MR. LAWSON: Hi.

14 BOARD MEMBER SERNA: Thank you, Mr. Lawson for
15 being here.

16 MR. LAWSON: Sure.

17 BOARD MEMBER SERNA: I appreciate your comments.

18 MR. LAWSON: Sure.

19 BOARD MEMBER SERNA: I had a question. I'm in
20 receipt, as I think the rest of the Board is, of an
21 October 12th letter addressed to our Chair.

22 MR. LAWSON: Yes.

23 BOARD MEMBER SERNA: And in part of the letter,
24 you explain your -- the concern that you just verbalized.

25 MR. LAWSON: Yes.

1 BOARD MEMBER SERNA: There's a -- I don't know if
2 you have the letter with you. It doesn't look like you
3 do.

4 MR. LAWSON: I don't.

5 BOARD MEMBER SERNA: But there is on a page 2 a
6 statement relative to the total of 60 million that's
7 being -- that would be appropriated in what's being
8 suggest by staff, part of which would be used for zero
9 emission bus fleets that quote, "It is an inordinate
10 amount of money on technology that is not immediately
11 ready for deployment." So I was hoping you could expand
12 on that, because my understand -- I know we're going to
13 hear from a representative from a school district later
14 from Sacramento where, according to the staff proposal,
15 there would be deployment of electric buses with what is
16 being proposed by staff with the funding that's being
17 proposed by staff.

18 So I'm trying to reconcile that statement --

19 MR. LAWSON: Sure.

20 BOARD MEMBER SERNA: -- with what I think I know
21 about the current state of commercially viable electric
22 bus chassis and the powertrains and what I'm being told by
23 the folks that actually would deploy these electric buses.

24 MR. LAWSON: That's a good question. I
25 appreciate the opportunity to answer it. So I think, you

1 know, my colleague a moment ago addressed a little bit of
2 that. And so I think one of the issues that statement is
3 really tied to the Class 7 and 8. When we talk about what
4 we think should be -- the majority of the money to spent
5 on. And so obviously, we do acknowledge that there are
6 electric buses available, but we're specifically talking
7 about shifting that money to spend more of it in Class 7
8 and 8, where you can get those immediate NOx reductions,
9 and that's what we're talking about in that regard.

10 So I agree with you that there is that technology
11 out there, but when you talk about 7 and 8, there is a
12 limited amount of technology and, you know, natural gas --
13 the low-NOx engine is ready to go, and the 12-liter will,
14 you know, be, I think, a very integral part in helping
15 that particular sector reduce those NOx emissions.

16 BOARD MEMBER SERNA: Okay. I appreciate the
17 explanation. I guess I didn't see a -- maybe I didn't
18 catch a footnote or something, but it doesn't seem to --
19 it didn't seem to be qualified the same way in the
20 paragraph that was in your letter --

21 MR. LAWSON: Okay.

22 BOARD MEMBER SERNA: -- so that's why I asked the
23 question.

24 MR. LAWSON: I appreciate it.

25 BOARD MEMBER SERNA: Thank you.

1 MR. ATKINSON: Good afternoon, Chair Nichols and
2 members of the Board. My name is Fraser Atkinson, and I'm
3 the chairman of GreenPower Motor Company. Also here today
4 with me is Phillip Oldridge, our CEO, and Mark Quinlan, VP
5 for the west coast.

6 We're here in support of the pilot project with
7 Porterville. And we're the technology provider for that
8 project. By way of background, GreenPower has a suite of
9 low floor all-electric transit buses, and high floor
10 all-electric school buses and shuttle buses.

11 We're very proud to have deployed last week --
12 actually, the last 3 or 4 weeks, I should say, the first
13 purpose-built all-electric double-decker bus in Victoria,
14 Canada. All of our products are zero emission and no NOx,
15 for the benefit of that side of the Board that was focused
16 on no -- I'll repeat it --

17 BOARD MEMBER MITCHELL: He deserted me.

18 (Laughter.)

19 MR. ATKINSON: Maybe I can send him a letter.
20 But we are no emission, no NOx, and very proud that all of
21 our fleet reflects that. We are an international company,
22 and recently acquired a property in Porterville. We're
23 starting manufacturing modular buildings, and we've been
24 working with the city to get permitted to build a 150,000
25 square foot building. That will be our manufacturing

1 facility. It will also be the GreenPower technology
2 center.

3 So GreenPower will be consolidating our
4 operations in not just Porterville, but the San Joaquin
5 Valley as we draw from other resources, such as Fresno
6 State who we've been engaged with in terms of a number of
7 programs that we can work with together. So our goal is
8 to be not just in the community generating jobs, but being
9 part of the community that generates those jobs.

10 This project with Porterville has many, many
11 unique aspects. It's really unique compared to all 38 --
12 I believe it was 38 applications that the CARB received.
13 The project with Porterville we are implementing a
14 zero-emission solution across a transportation system,
15 charging infrastructure, and a sustainable energy source,
16 truly what is intended by the Moyer calculations in terms
17 of zero emissions. So it's not just the vehicle. Our
18 goal is to be a zero-emission solution, not just a
19 zero-emission vehicle.

20 The pilot project will serve as an example to
21 other transit agencies and operators not just in the San
22 Joaquin Valley area, but across North America. GreenPower
23 is delighted to be working with Porterville as they have
24 shown the leadership that is required for successful
25 implementation of this kind of project, as well as the

1 technical support from the San Joaquin Valley Air
2 Pollution Control District.

3 So with my remaining 10 seconds, I'll leave that
4 for any questions.

5 (Laughter.)

6 CHAIR NICHOLS: No questions. Thank you though.

7 PORTERVILLE CITY COUNCIL MEMBER GURROLA: Good
8 afternoon, Honorable Chairwoman Nichols, and Vice
9 Chairwoman Berg, and members of the Board. Welcome to the
10 San Joaquin Valley, first of all. I'm Virginia Gurrola
11 and I'm the Council woman for the City of Porterville. In
12 addition, I proudly serve on the San Joaquin Valley Air
13 Pollution Control District with Dr. Sherriffs.

14 It's an honor to address you this afternoon, as
15 the City of Porterville is a recommended recipient of
16 funding under the Zero Emission Bus Pilot Commercial
17 Deployment Project. With a complete support of the air
18 district, the city has tremendous fortune and opportunity
19 to partner with GreenPower Motor Company, as together we
20 seek to engage a fleet-wide implementation of electric
21 transit buses to the extraordinary benefit and service to
22 the Porterville community and its surrounding area.

23 As many of you are aware, or may not be aware,
24 Porterville area has served as ground zero of the historic
25 drought that we continue to endure. Due to private wells

1 having run dry -- thousands of residents' -- private wells
2 have run, dry thousands of residents located in the
3 unincorporated area commonly known as East Porterville are
4 without water, and, in some cases, have been without water
5 for 3 years, a tremendous burden.

6 Generally regarded as one of the most desperate
7 and severely disadvantaged areas in the entire State, the
8 city is striving to improve the quality of life and
9 environment in this area, not only by providing
10 desperately needed household water, but also by providing
11 or improving access to other essential services through
12 transit.

13 In serving the east Porterville area, the Tule
14 River Tribal Reservation, as well as the City of
15 Porterville, the city's transit system almost exclusively
16 operates and serves designated disadvantaged communities.
17 Beyond the desirable air quality benefits served in the
18 operations of zero emission transit buses in these
19 obviously challenged areas, GreenPower Motor Company is
20 committed to manufacture the buses and provide valuable
21 employment opportunities desperately needed in the area,
22 which it underscores the importance and true significance
23 of the city's project.

24 I wish to thank you for your time and attention.
25 And on behalf of the residents of the City of Porterville,

1 we wish you to support the city's fleet-wide
2 implementation of zero emission electric transit buses.
3 Thank you very much for your time.

4 CHAIR NICHOLS: Thank you. I think we've got
5 another representative of this project as well.

6 CITY OF PORTERVILLE MAYOR STOWE: You do. Good
7 afternoon, Madam Chair Nichols and Board members. I am
8 Milt Stowe. I have the privilege serve mare city
9 Porterville. And it is an honor to address you this
10 afternoon, as the City of Porterville is recommended for
11 recipient of funding under the Zero Emissions Bus Pilot
12 Commercial Deployment Project.

13 The city has tremendous fortune an opportunity to
14 partner with the GreenPower Motor Company, as together we
15 seek employment and a fleet-wide implementation of
16 electric transit buses, an extraordinary benefit and
17 service to our community.

18 Located in the central San Joaquin Valley, the
19 Porterville area has served as an epicenter of a historic
20 drought and we continue to endure. Due to their private
21 wells and having run dry, thousands of residents located
22 in the unincorporated area surrounding the city currently
23 survive weekly water deliveries to make a large household
24 tank.

25 However, a solution to this humanitarian crisis

1 is being implemented as the city's waterlines are being
2 extended, as I speak, and these desperate households are
3 receiving permanent connections. And just as the city's
4 providing dramatically improved quality of life and
5 environment for these residents' provision of water, the
6 city also provides essential transit service to these
7 severely disadvantaged residents, which the partnership
8 between the city and GreenPower Motor Company and
9 fleet-wide implementation of electric transit buses will
10 further contribute and improve quality of life and
11 environment to these residents.

12 And I think too thank you for your time and
13 attention, and especially your considerations in support
14 of this project.

15 Thank you very much.

16 CHAIR NICHOLS: Well, it's great that you all
17 came here today. You know, it's impressive the support of
18 the public-private partnership that's involved in this.
19 And I do think that this is one of the great examples of
20 what this particular program can do. So we're excited to
21 hear from you as well.

22 Esther Postiglione.

23 MR. HAMILTON: So Esther had to leave. She
24 couldn't stay. I'm going to go ahead -- I'm not going to
25 take that time, but I'm going to incorporate into --

1 because I'm next --

2 CHAIR NICHOLS: Okay. That's fine.

3 MR. HAMILTON: -- into my comments what I know
4 they had asked to say today.

5 So for Cultiva La Salud who is an organization
6 that works around food safety and improving community
7 strength across the valley in all 8 counties led ably by
8 Genoveva Islas, who also sits on the Board that's
9 overseeing Covered California.

10 They really wanted to address the idea of
11 including bike sharing into greenhouse gas funding through
12 the ARB processes. That's been left for the
13 transportation side largely. And I think that the
14 expectation is people will work this bike-ped stuff into
15 their RTP/SCSs and that we'll see that happen through
16 those dollars.

17 But, in fact, there's not enough money there for
18 that, and I can't think of something that's going to
19 reduce greenhouse gases more effectively than actually
20 getting people out of a vehicle and onto a bicycle. So,
21 you know, we see that as a natural merging of these 2
22 programs and would like to see some small part of this
23 funding actually considered for funding bike-sharing
24 programs in disadvantaged communities across the San
25 Joaquin Valley.

1 Putting on my CCAC hat, I want to say, and as
2 part of the California Clean Freight Coalition for many
3 years now, that we support this proposal, and we
4 particularly support increasing funds for heavy and medium
5 diesel fleet conversions. I was just reviewing a company
6 up in Washington's -- their work with CNG conversions of
7 diesel engines in trucks, which is remarkable to me that
8 you could actually that in situ, in the truck, not dual
9 diesel and CNG, but full CNG conversions.

10 This seemed to me like an ideal answer to the
11 problem of I bought a new truck in 2012 for you guys, and
12 now you're telling me I've got to go electric in 2020. I
13 mean, really?

14 So, you know, here you could convert your diesel
15 truck to a CNG, get a bridge supplied fuel source, and
16 then that truck would wear out naturally, and you'd be
17 able to make that conversion to electric. So I thought
18 that was a pretty elegant solution as we would say in the
19 medical world.

20 As to the Plus-Up Program, I think that program
21 speaks for itself. Here in the valley, I believe it's
22 been operated very ably and successfully. And we want to
23 see those changes in improving access to that program and
24 decreasing the threshold for folks to sign up as far as
25 their income, and pre-application processes would be very

1 useful to better construct and have conformity across the
2 regions. So I'll leave you with that.

3 And thank you very much.

4 CHAIR NICHOLS: That's a good suggestion. Thank
5 you.

6 You could pull the podium -- you could push the
7 podium down.

8 MR. TEEBAY: I'm vertically challenge. I should
9 do that.

10 (Laughter.)

11 CHAIR NICHOLS: Make it fit you.

12 MR. TEEBAY: Anyway.

13 CHAIR NICHOLS: Oh, just wait a second here.

14 MR. TEEBAY: I like that.

15 CHAIR NICHOLS: Now, we can see you.

16 MR. TEEBAY: Thank you. So I'm technologically
17 challenged, I guess. Madam Chair and Board members, thank
18 you for allowing me to speak today. I'm Rick Teebay with
19 the County of Los Angeles. We support the recommendation
20 to go forward with the funding for the low carbon
21 transportation funding and Air Quality Improvement
22 Program.

23 Full disclosure, I was involved in four of the
24 almost 40 applications for that -- for the zero emission
25 heavy-duty truck program, one of which is pending an

1 award. And that particular project would provide 21
2 trucks that would operate in downtown Los Angeles, Baldwin
3 Park, Anaheim, and Visalia.

4 I commend your staff for their work on the
5 opportunity. Your staff spent literally months. They
6 were open and transparent in workshops in order to develop
7 the opportunity. And each of the applications and the
8 supplements were more than a hundred pages.

9 Your staff carefully read, evaluated, and read
10 each -- ranked each application. And the awardees and the
11 pending awardees are ready. And if we don't do it now,
12 we're going to lose time.

13 So I think we heard earlier today that we need to
14 get to zero, and we need to get to zero now. And whether
15 or not any of the applications that I -- which I was
16 involved, I would really strongly support this.

17 Thank you very much.

18 CHAIR NICHOLS: Thank you for coming.

19 MS. TUTT: Good afternoon Chair Nichols and
20 members of the Board. I want to echo Rick's -- I'm Eileen
21 Tutt with the California Electric Transportation
22 Coalition.

23 I want to echo Rick's commendations of the staff.
24 Really did an excellent job, and I urge you to support
25 this very thoughtful plan and approve its adoption, so we

1 get can this money out the door, and let them get working
2 on the next one.

3 (Laughter.)

4 MS. TUTT: I do -- you have my letter. I brought
5 it just in case Supervisor Serna pulls it out.

6 (Laughter.)

7 MS. TUTT: But I do want to say -- I just want to

8 BOARD MEMBER SERNA: I actually read it once in a
9 while.

10 (Laughter.)

11 MS. TUTT: -- one -- with my one minute is all
12 I'm going to take. I want to follow up on something the
13 Supervisor and Board members' Mitchell said, and that is
14 we need a different solution than this. We need a
15 long-term reliable funding source for these inventive
16 programs that supports your regulations, and an outreach
17 and education plan. So that's what we need and we need it
18 in this next legislative cycle, in my opinion. And I will
19 be working very hard on that. And I hope that I can count
20 on your support, because I think you and your staff are
21 excellently suited to help us craft such a plan that can
22 get adopted and can lead us through the next five to 10
23 years in a much more reliable way, because this biannual
24 triannual, quad-annual approval of little tiny bits of
25 funding is not -- is not a sustainable solution.

1 So thank you very much.

2 CHAIR NICHOLS: Thank you for all your support.

3 (Thereupon an overhead presentation was
4 presented as follows.)

5 MR. SHANNON: Good afternoon. And I appreciate
6 the opportunity to speak before the Board.

7 I want to just to share a little bit about
8 myself. I'm Tim Shannon, director of transportation at
9 Twin Rivers Unified School District. And we are very
10 excited about this opportunity to have 16 electric school
11 buses deployed within our district.

12 And we call this a breath of fresh air, because
13 not only is it going to give us new equipment, it's going
14 to allow people to breathe easier within our district.

15 I'd like to show you the -- is there a clicker?

16 BOARD MEMBER SERNA: Hey, Tim?

17 MR. SHANNON: Yes.

18 BOARD MEMBER SERNA: Can you explain where Twin
19 Rivers School District is?

20 MR. SHANNON: Yes. Twin Rivers is located -- I
21 don't know if any of you know where McClellan Air Force
22 because, but we're in Sacramento, and McClellan Air Force
23 Base is right dead center in us.

24 We are -- here, I'll show you a map, where you
25 could actually --

1 ROP program and have kids come into the shop and learn
2 about electronic -- electric buses.

3 --o0o--

4 MR. SHANNON: And on the other hand, the other
5 part is we've partnered in with SMUD. First Priority Bus,
6 that's where we're going to get our 16 buses from, as long
7 as we pass this today, and Sacramento Air Quality, plus
8 many other partners along the way. This is really a good
9 opportunity for us and our school district and for our
10 community.

11 CHAIR NICHOLS: Great. Thank you.

12 MR. SHANNON: And if you have any questions, I
13 can answer them.

14 CHAIR NICHOLS: Good to hear. Thank you.

15 MR. SHANNON: Thank you.

16 VICE CHAIR BERG: Congratulations.

17 MS. HANSHEW: Good afternoon, Madam Chair Nichols
18 and members of the Board. My name is a Jennifer Hanshew
19 and I'm the State president of CASTO, California
20 Association of School Transportation Officials. I am here
21 on behalf of the organization in support of the Rural
22 School Bus Replacement Pilot Program.

23 Over the past 2 years, CASTO has been working
24 with the School Transportation Coalition under the
25 leadership of Senator McGuire and the California Air

1 Resources Board in putting this pilot program together.

2 We would like to thank you and your staff who has
3 been working collaboratively with Senator McGuire on
4 putting this pilot program together. It is CASTO's
5 mission to promote safe trans -- safe pupil transportation
6 for all California children.

7 The Rural School Bus Replacement Program furthers
8 our mission by fostering the replacement of high-polluting
9 vehicles, which harm the environment and the students who
10 ride them.

11 If approved, the grant opportunity would offer
12 the most challenged school districts a path to join the
13 State in leading the nation to reduce greenhouse gas
14 emissions. It would allow school districts to use awarded
15 funds to replace California's oldest buses with the latest
16 alternative fuels.

17 Once again, we thank you for the work that you
18 and your staff -- on this program and support the approval
19 of the 16-17 funding plan.

20 Thank you so much.

21 CHAIR NICHOLS: Thanks for your support.

22 MR. LEVIN: Thank you, Chairwoman Nichols and
23 members of the Board. I am Jamie Levin with the Center
24 for Transportation and the Environment. We're a nonprofit
25 that focuses on raising funds and managing projects to

1 develop and deploy true zero-emission vehicles.

2 I'm here to strongly endorse your staff's plan
3 and to thank your staff for several purpose. One, for
4 putting up with me for the last 3½ years discussing the
5 value of the project that I will quickly summarize for
6 you, and encouraging us and endorsing us to move forward
7 with a quality project.

8 The fuel cell electric bus commercialization
9 consortium consists of 20 buses. You've heard others
10 speak about the project at AC Transit, Orange County
11 Transit Authority. It's distinguished by several key
12 factors.

13 First of all, we have, as members of this
14 consortium, 2 of the 5 largest transit agencies in
15 California AC Transit, Orange County Transportation
16 Authority representing almost 1,200 transit buses.

17 Secondly, we are also benefited by New Flyer, the
18 largest North American U.S. bus manufacturer that commands
19 50 percent market share in the public transit network.
20 And they are not just providing us with vehicles. They
21 are the prime OEM helping to develop this technology for
22 commercialization purposes.

23 Forty-two percent of the cost of this project is
24 being cost shared with support from the South Coast Air
25 Quality Management District the Bay Area Air Quality

1 Management District, and the 2 transit systems.

2 Most importantly, the 20 buses that we are going
3 to build, and those buses will be built by 2018 to meet
4 the very stringent deadlines that the legislature has set
5 forth, we are shovel-ready with this. But most
6 importantly, we have projected that these 20 buses will
7 carry almost 23 million passengers from disadvantaged
8 communities over the 12-year life of these vehicles. That
9 translates into an 81 -- or \$0.82 per passenger cost
10 effectiveness from the grant that you would be awarding us
11 through your staff's recommendation.

12 Lastly, I'd like to share with you that
13 California has been leader, but we're not alone in this.
14 In Europe, we're looking at prices of fuel cell buses at
15 600 to 650 thousand Euros per bus. In China, I have a
16 Class B license. I recently drove a \$300,000 fuel cell
17 bus. So I just want to emphasize this is the penultimate
18 project to make zero -- fuel cell buses zero emission.

19 We will be coming back to you with the
20 Legislature's approval of continuing cap-and-trade funds
21 for the next project to make it commercially viable.

22 Thank you very much.

23 CHAIR NICHOLS: Supervisor Gioia.

24 BOARD MEMBER GIOIA: So, Jamie, I wanted to make
25 a request of you, and you're the right person to make this

1 request. It's been a long afternoon. So in honor of --
2 this is really meant for those of us who are beyond a
3 certain age and grew up in California, my preface.

4 So in honor of Ken Kesey and the Merry
5 Pranksters, you're going to name one of the buses
6 "Further". For those of you that don't know, that was the
7 name of his bus, because this is going to take us further
8 into this sort of new reality of zero-emission vehicles.

9 (Laughter.)

10 (Applause.)

11 MR. LEVIN: Thank you, Supervisor. That is a
12 guarantee --

13 (Laughter.)

14 MR. LEVIN: -- but I'll let AC Transit make that
15 final decision.

16 And Supervisor Serna I have a copy of the letter
17 we already submitted to you.

18 (Laughter.)

19 BOARD MEMBER SERNA: I've been typecast.

20 (Laughter.)

21 CHAIR NICHOLS: That's good.

22 BOARD MEMBER GIOIA: I know you're someone who
23 understands that time period.

24 MR. PEEPLES: Yeah.

25 (Laughter.)

1 MR. PEEPLES: Yeah, and I'll try.

2 (Laughter.)

3 MR. PEEPLES: My General Manager has to do it.

4 Chair Nichols, members of the Board. My name is
5 Chris Peeples. I am an elected at-large director of the
6 Alameda-Contra Costa Transit District. And I currently
7 serve as the president of its board. And I bring you AC
8 Transit's strong support for your staff's position on the
9 adjustment for the funding.

10 I want to -- I'm going to talk very briefly about
11 3 things. The first is a little bit about our program,
12 second is about the disadvantaged areas we're going to
13 serve, and third is how this fits into some overall fuel
14 cell work.

15 I'm not going to talk to you a lot about it --
16 our program. You know about it. We've been running the
17 program for about 12 years. We have proved that fuel cell
18 buses are reliable and durable. The problem now is cost.
19 And what happens is if you can increase the volume, you
20 lower the cost. With a build of 300 China has lowered the
21 cost to \$300,100,000 a bus. With a build of 144, Europe
22 has reduced the price to about \$730,000. It's 650 Euro.
23 That's where we need to be going. That's where this grant
24 will begin to put us off.

25 Now, a little bit about the disadvantaged

1 communities we're going to serve. We have communities
2 with severe air quality problems in our district. These
3 buses are going to out of Division 2 and Division 4.
4 They're going to run in areas of north Richmond and San
5 Pablo that Supervisor Gioia -- and that's in his district.
6 They suffer from stationary fuel cell sources, all the
7 refineries in west Contra Costa County. They've also got
8 Highway 80. They've got a Port that is not yet
9 electrified. They have rail lines. Very difficult.

10 We're also going to be serving west Oakland, and
11 that's an area I know a little more about. That's about 3
12 miles from my house. And I live in zip code 94611.
13 People who live in west Oakland, which is 94607, on
14 average, live 10 years less than people who live in my zip
15 code.

16 Some of that is air quality, a lot of causes for
17 it. But if we look at asthma, the asthma rate, the gross
18 asthma rate in west Oakland is 6 times what it is in
19 94611. In 94611 from 2012 to 2014, 71 people under the
20 age of 18 went to the hospital because of asthma. In west
21 Oakland, 296 went to the hospital because of asthma.
22 That's one of the places where we're going to be running
23 these buses.

24 Now, that's a help. The small number of buses
25 will be a help. We're certainly -- we're -- woops. The

1 buses -- the bus lines carry about 37 million people a
2 year. We estimate that these zero emission fuel cell
3 buses will carry about 1.5 million people a year.

4 Thank you.

5 CHAIR NICHOLS: Thanks for your -- all of your
6 work here. AC Transit really stands out as a model in
7 this fuel cell area.

8 MR. THORNE: Good afternoon, Madam Chair and
9 members of the Board. My name is Cliff Thorne. I am the
10 department manager of maintenance at Orange County
11 Transportation Authority. And I am here to support the
12 proposed funding plan for the air quality improvement
13 program. We have worked closely with the ARB staff
14 throughout the development of the Advanced Clean Transit
15 Rule, and the recommended for conversion of transit fleets
16 to zero emission bus.

17 Currently, 76 percent of OCTA's bus routes exceed
18 150 miles. And there is limited technology currently
19 available that can service those areas without some kind
20 of mid-day charging.

21 OCTA has recently introduced the hydrogen fuel
22 cell bus into its fleet, and it has an average of over 200
23 miles range. That allows us for a greater application of
24 the service area. Now, the expanded program, pre-awarded
25 and funded through this program, will allow OCTA to

1 operate a larger fuel cell bus fleet and operate a fuel
2 station which will allow us to learn more about the
3 technology and how it integrates into our bus system.

4 This project will enable us to also prepare for
5 the Advanced Clean Transit regulation that may require
6 zero emission buses in our entire fleet.

7 In addition, the fleet of fuel cell buses that
8 will be running will operate along 5 routes within the top
9 25 percent of disadvantaged communities in Orange County.
10 Last year, bus stops along these routes served nearly 5
11 and a half million passengers.

12 Without programs such as the one you are
13 considering today, transit agencies would not be able to
14 meet the zero emission regulations, due to the high cost
15 of the vehicles and the fuel stations.

16 This project will further help develop the
17 technology and could be applied to both heavy-duty bus --
18 heavy-duty truck and bus, reduce the cost vehicles, and
19 bring value to disadvantaged communities.

20 Thank you for your time.

21 CHAIR NICHOLS: Thank you.

22 MR. WARREN: Good afternoon, Madam Chair, Board
23 members. My name is David Warren. I'm the director of
24 sustainable transportation at New Flyer of America. It's
25 a privilege to be here in San Joaquin Valley for 2

1 reasons. Number 1 is we are an employer here in Fresno.
2 We have our parts distribution center and distribute
3 millions of dollars of parts all throughout the western
4 region of the country.

5 Secondly, I'm married to a Fresno State Bulldog.
6 And --

7 (Laughter.)

8 MR. WARREN: -- I have to do that shout-out for
9 her.

10 (Laughter.)

11 MR. WARREN: New Flyer of America produces 6
12 types of propulsion systems. We do clean diesel, we do
13 compressed natural gas, and we actually did the first
14 commercial installation of the low-NOx CNG engine. We do
15 electric hybrids. We also do electric trolley buses, as
16 you would see in San Francisco. We do battery electric
17 buses. And then most recently, we do fuel cell buses.

18 So I'm here to give full support to the ARB
19 staff's recommendation for the transportation low carbon
20 plan and fuels investment, including the AQIP program.
21 But let me tell you why it's so important on the fuel cell
22 end of it.

23 Fuel cells are essentially on-board -- they're --
24 first of all, they're electric buses with an on-board
25 battery charger. So it is the last stage of the zero

1 emission buses that have become commercially viable. So
2 with the support of this program, New Flyer is able to
3 build 25 fuel cell electric vehicles.

4 We're currently scheduling these vehicles for
5 delivery in 2018. We have build slots for these units.
6 We're also putting in hydrogen infrastructure at our
7 manufacturing facility. It's been mentioned earlier that
8 fuel cell buses were once in excess of \$5 million.
9 They're now closer to \$1 million. And our goal is to
10 drive them to parity with battery electric buses.

11 So with this project, I want to also mention a
12 couple other things. Twenty years of my career I was in
13 the heavy vehicle industry, commercial vehicle industry.
14 I worked for Kenworth Truck Company. And I was a design
15 engineer, and then I led the research and development at
16 Kenworth.

17 I can tell you what will be learned on this
18 program is fully applicable to commercial heavy- and
19 medium-duty trucks.

20 And with that, thank you for your consideration
21 of this project.

22 CHAIR NICHOLS: Thank you.

23 MR. POCARD: Madam Chair, Board, good afternoon.
24 My name is Nicholas Pocard. And I'm the director of
25 marketing for Ballard Power Systems. As you probably

1 know, at Ballard we have been working on fuel cell
2 technology for several decades. But I think what I would
3 like to share with you today is that we're witnessing a
4 big shift in the technology and also the adoption.

5 First of all, I'd like to thank you for the past
6 decades of support that California and ARB has provided to
7 the deployment of fuel cell buses, which has led to the --
8 you know, their leading position of California.

9 But what we see today, whatever we are doing here
10 in this program, that we are strongly supporting, we
11 should look to deploy more fuel cell buses in California
12 is a call worldwide. What you are seeing today in Europe,
13 over one 142 buses, fuel cell electric buses will be
14 deployed in the next 2 years, followed by another 100
15 buses in the next program. Those programs are fully
16 funded, and are going to be -- deployment is going to
17 start in 2018.

18 But I think what is even more important is what
19 we are seeing in China. Through the new vehicle energy
20 policy, the Chinese government decided to support and fund
21 deployment of fuel cell vehicle as well as hydrogen
22 infrastructure as a -- on a nationwide program. And this
23 include fuel cell transit buses, as a result of this
24 global program, which is a 4-year fully funded support
25 program nationwide.

1 In addition to that, each of the province in
2 China has added funding to double up available amount of
3 subsidy to lower the cost of fuel cell electric buses to
4 parity, or even lower, than diesel -- than battery
5 electric buses.

6 As a result, we are starting to see the first
7 deployment. More than 300 fuel cell buses, electric buses
8 will be on the road in the Guangdong Province by the end
9 of 2017. We have announced the thing last month. The
10 first line of 12 buses is running. This week, the second
11 line, 10 buses, are on the road, and it is just going to
12 continue.

13 So this program here in California is also very
14 important to help us technology developer to drive down
15 the cost, so we can offer to transit agencies in
16 California options for electrical vehicle, for electrical
17 bus, not only battery electric, but also fuel cell
18 electric bus so they can meet all the requirement of
19 operation.

20 Thank you very much.

21 MR. MAGAVERN: Bill Magavern with the Coalition
22 for Clean Air, and also speaking for several other groups
23 on a letter that I'll submit for the record.

24 We support the plan that the staff has proposed,
25 and also want to recognize the staff have run a very

1 inclusive public process throughout the year on this. And
2 we've been happy to participate in that.

3 A few comments that we have. Mr. Panson in his
4 presentation noted that the legislature has made some
5 modifications to the Clean Vehicle Rebate Project. And we
6 support those. We think it makes the program more
7 effective. In fact, it's very interesting that the staff
8 project that we will have enough money this year for CVRP,
9 because of the fact that we've dropped the income cap.
10 And we think that means that the incentives are being
11 reserved for those people who need them the most, and not
12 for those who probably would have made the purchase
13 anyway, without that rebate.

14 We also support the floor for plug-in hybrids for
15 battery strength. And since both of these provisions
16 actually will only be in effect for 8 months, November 1st
17 of this year through June 30th of next year, it's
18 important that we have this discussion about renewing
19 those for next year. And we might want to look at over
20 the years raising that minimum battery strength for the
21 plug-in hybrids, so we encourage the improvement in that
22 technology, and we know that battery strength is very much
23 improving.

24 We also would ask that you continue to work on
25 making the rebates available at the point of sale, because

1 particularly for low and moderate income people, that will
2 be much more meaningful than having to wait several weeks
3 for the check. And we recognize there are some
4 complexities to that, but ask that you work on that, and
5 also make sure that the dealers are part of that, and that
6 they're prepared to make that available. And we hope to
7 make it part of the marketing that we think they could be
8 doing a much better job of when it comes to plug-in
9 vehicles.

10 The light-duty equity pilot projects we very much
11 support, and glad to see that the legislature has provided
12 ample funding for those going forward. We think, and I
13 think that this is the staff's plan and has been their
14 practice is to maintain some flexibility within that
15 category, so that if there's one that maybe isn't fully
16 ready to use all the money then the money could be used
17 for one or the other pilot programs. So we think that's a
18 good idea.

19 And then the heavy-duty and off-road category so
20 important. Didn't get the full amount from the
21 legislature, but still \$150 million is a lot better than
22 we had in the last year. So very much support that,
23 including the low-NOx engines, the increased amount there
24 for those vouchers.

25 Thanks very much.

1 CHAIR NICHOLS: Thank you.

2 MR. LEON: No hydraulics needed.

3 (Laughter.)

4 MR. LEON: Buenas tardes. It's been a long day.
5 And I think Seyed failed on bringing his coffee today, but
6 it's all right.

7 My name is Rey Leon with Valley LEAP. It stands
8 for Latino Environmental Advancement and Policy project.
9 And we have the Green Raiteros program. I'll share a
10 little bit about that in a bit. But welcome, Chairman
11 Mary Nichols, Board, as well as the staff. And thank you
12 all for all of the work and the leadership you've
13 provided.

14 You know, we've made California, I think, number
15 1 on the planet, right, in regards to air quality and GHG.
16 So I'm very happy to say that I'm also part of the ARB
17 Environmental Justice Advisory Committee, where I'm
18 continuously commenting in respect to my home town and
19 other towns like it, my farmworker community of Huron,
20 which is on the west side near the 5 here in the San
21 Joaquin valley.

22 And, you know, one of the things that I heard
23 earlier in the presentation, and I that I'd have to
24 comment and recommend, and I have a little short story for
25 all of you.

1 But regarding outreach, I think outreach is
2 excellent. We need to increase it, but we also need
3 resources to make sure that our families actually apply.
4 We hosted a forum, a workshop, in Huron. And all of our
5 folks in Huron qualify. You know, some of the folks that
6 came in from Avenal and Coalinga, they were sad that they
7 didn't. But I think CalEnviroScreen 3.0 is going to fix
8 that for those families.

9 And what we realized is that people really need
10 some assistance, you know, with that application, at the
11 moment, but also easily accessible via phone or
12 community-based organization whatever it may be. We need
13 to make sure we take care of that portion as well.

14 But when we had this workshop, we didn't have a
15 lot of people come in. You know, I think the folks are
16 still getting use to this technology. And I think the
17 best way to get people used to the technology is to have
18 them feel it, touch it, drive it, right?

19 The people that did show up were pretty much the
20 folks that I've been talking to, part of the Green
21 Raiteros program, which I'll talk about in a little bit,
22 who are the folks in the 3 different communities that are
23 always providing rides to farmworker families to take
24 their kid to the doctor, or they've got to go take care of
25 legal services. And Huron is on the far west side. It's

1 an hour to get here in a vehicle, and by bus, public
2 transit, it's 3 hours. So, you know, it's kind of like
3 the way to make it happen.

4 So there's people that are very attentive, and
5 they're the ones that are, daily basis, driving their
6 vehicle. So, you know, that's -- making sure that we
7 improve this so -- to get them, you know, first and
8 foremost, and to get this technology. And they -- a lot
9 of people go through their cars. They became familiar wit
10 it and so forth.

11 So Green Raiteros, I've talked to some of you
12 about this before. I know Dean Florez is a huge champion
13 over there. And what it is is basically as a child, I
14 grew up, you know, with my mom, us, using it. You know,
15 Green Raiteros is essentially -- well, not Green Raiteros,
16 publico raiteros is my uncle he would give people rides to
17 Fresno to a hospital -- and as I conclude -- but -- so the
18 Green Raiteros is the next level of it, right, where we --

19 CHAIR NICHOLS: Soon, please.

20 (Laughter.)

21 MR. LEON: -- where engage -- where we bring in
22 the technology with the vehicles, the infrastructure for
23 charging, which we definitely don't have in the county or
24 the valley, and we bring in the dispatching ability so
25 that we maximize those rides for those drivers, and the

1 families, and the other last portions, that these are
2 retired farmworkers living on Social Security.

3 While this is -- will be supplemental income, and
4 the families usually they'll pay like 100 to get to the
5 Valley Childrens Hospital. Well, we want to bring it down
6 to where it's \$30, right, and make, you know, equity in
7 terms of not just the access to transit for social
8 services, but also something that starts empowering the
9 economy of the -- these poorest towns in the State of
10 California, which are Huron, Parlier, Mendota. Those are
11 the top 3 and they're all here in Fresno county, but
12 that's the short story.

13 Thank you.

14 (Laughter.)

15 CHAIR NICHOLS: It's a very good story. Really
16 good use of the technology and blending it together with
17 the people who need it. So thank you for that.

18 That concludes the list of witnesses on this
19 item. We have one person who signed up for public
20 comment, but not on the item, so we can close the record
21 and -- yes.

22 BOARD MEMBER SERNA: Thank you, Chair Nichols. I
23 know there's other colleagues that are going to want to
24 chime in and the hour is getting late here, but I just
25 want to use my limited time, first, to thank staff for all

1 their hard work. I'm sure it's not -- we could all agree
2 it's not the first time we had had hope that we were going
3 to be able to work with a bigger pie, but unfortunately
4 we've had a lot of practice. We're getting pretty good at
5 being efficient at working with what we're given.

6 And I think, all things considered, certainly
7 what staff has put forward is very thoughtful and
8 responsive to the needs up and down the State in the
9 various categories. So again, I think you've probably
10 heard me in some of my commentary already that I'm very
11 enthused and supportive, especially of the deployment of
12 29 electric school buses in -- not only in the general
13 regional area that I have the good fortune to serve as a
14 county supervisor, but in the district in the county that
15 I serve.

16 And I could attest that the 3 school districts
17 that will be agents of that deployment have considerable
18 need. And there are a number of very, very disadvantaged
19 communities within those jurisdictions. So I'm going to
20 be prepared to support staff's recommendation at the right
21 time, Madam Chair

22 CHAIR NICHOLS: Make the motion.

23 BOARD MEMBER SERNA: That's a motion.

24 CHAIR NICHOLS: Thank you very much.

25 Do we have a second?

1 VICE CHAIR BERG: Second.

2 CHAIR NICHOLS: Okay. Any further comments or
3 discussion?

4 BOARD MEMBER GIOIA: Just to get further
5 clarification on when staff is coming back to us on the --
6 sort of the additional 20 million based on demand,
7 sometime in the spring. Could you talk about that a
8 little more?

9 AIR POLLUTION SPECIALIST PANSON: Our plan, and
10 as proposed, that is something that would be delegated to
11 the Executive Officer. What we laid out in the proposal
12 is that we would work with CAPCOA in the event that
13 there -- we're hoping that demand speaks for itself. But
14 in the event that we needed to make some tougher
15 decisions, we would do it through CAPCOA. That's the
16 proposal as it stands.

17 BOARD MEMBER GIOIA: Right. Basically divided
18 between San Joaquin Valley, South Coast, and other air
19 districts?

20 AIR POLLUTION SPECIALIST PANSON: Yes. We expect
21 it's likely that the bulk of that funding will go to San
22 Joaquin and South Coast just because of the time it takes
23 to ramp up a new program, but we didn't want to get ahead
24 of ourselves, and so that's why we left it open.

25 BOARD MEMBER GIOIA: Right.

1 AIR POLLUTION SPECIALIST PANSON: We hope that
2 all the new programs are successful, and we're going to
3 let the district's projections really drive where that
4 funding would be allocated, and we'd work with CAPCOA, if
5 there's a need.

6 BOARD MEMBER GIOIA: Thanks.

7 CHAIR NICHOLS: Mr. Florez.

8 BOARD MEMBER FLOREZ: Yeah. I don't want to
9 prolong the conversation, but I do want to just get
10 staff's perspective on this legislative intent language.
11 It keeps kind of floating around everywhere, the
12 legislature meant us to do something. And, you know, I
13 obviously am interested in just understanding when folks
14 say they want to compete in their current technologies,
15 but yet we have these demonstration projects, how does one
16 thinking about that, just so I can get clear before I
17 vote?

18 MOBILE SOURCE CONTROL DIVISION CHIEF KITOWSKI:

19 Right.

20 BOARD MEMBER FLOREZ: And great job, by the way.
21 Let me start with great plan. So I just want to
22 understand this part of it, before we adjourn.

23 MOBILE SOURCE CONTROL DIVISION CHIEF KITOWSKI:

24 Sure. Absolutely. We did receive a letter from
25 6 members of the Assembly. And that letter had a couple

1 of main points in it. And I will say just up front that
2 the funding plan that we've brought to you before, we
3 believe is consistent with the comments expressed and the
4 preferences expressed in that letter. There were a couple
5 of main points that came out of that letter. One of them
6 was that the thought that this funding program should fund
7 a broad range of technology. I believe the letter did say
8 there was some concern. We may be a little focused on
9 zero emission or electric drive technology, but it said we
10 should fund a broad range of technology.

11 And, in fact, we are funding hybrids, and fuel
12 cell, and batter electric, and near zero technologies in a
13 variety of different classifications. It also expressed a
14 concern that we might not meet the requirements of SB
15 1204, which requires a certain percentage of vehicles to
16 be sold that fall within the early commercialization
17 category.

18 And we have gone over those calculations. We far
19 exceed the requirements of SB 1204. So we believe the
20 funding plan we put forward is consistent with that
21 letter.

22 BOARD MEMBER FLOREZ: Okay. I just want to make
23 a comment. I'm going to definitely vote for the plan, but
24 I will say there was still a lot of money that the
25 legislature left on the table, in my view. They didn't

1 allocate everything, is that correct? In other words, we
2 had a bigger budget --

3 CHAIR NICHOLS: They have a little money left.

4 BOARD MEMBER FLOREZ: They have a little money
5 left. I mean, how much money roughly is left?

6 EXECUTIVE OFFICER COREY: I'm going by memory,
7 Senator. They allocated 900 million of what I believe was
8 1.4 billion in the bank.

9 BOARD MEMBER FLOREZ: Right, right. So I just
10 kind of see this somewhat of a train wreck a bit. You
11 know, the legislature will continue, because I used to be
12 one of them, wanting to, you know, kind of dictate, you
13 know, in some sense more implementable technologies that
14 are current.

15 We say that the Air Board today -- we had Seyed
16 up earlier saying, you know, we've got to do more, more
17 PM. And if we could start to combine -- I get what the
18 legislature is saying. I mean, if I were to ask Rudy
19 Salas, he'd say put all that money in PM here at the
20 district, and make sure those mobile -- everybody has
21 their pet peeve, but I think in these targeted districts,
22 it seems to me that we ought to -- and I would ask our
23 Chair and you, Richard to start early conversations with
24 the legislature about how they think about those remaining
25 dollars, because I think -- I'm somewhat moved by the fact

1 that people want to compete. They have technologies that
2 will do some things that we want them to do, but we don't
3 have enough money.

4 And that's unfortunate. That's not our fault.
5 That's the Legislature's fault. They could have allocated
6 1.4 billion, but they didn't. But I would simply say
7 maybe having that early conversation figuring what that
8 looks like on the break, so we can have some thought about
9 what they're thinking about, and give them our rationals
10 for, not what we did, because I think it's fantastic. I
11 think everything -- the plan is excellent, and I think you
12 made great choices.

13 I'm just wondering with the remaining dollars,
14 rather than, you know, having another fight or think about
15 a fight, maybe we can get ahead of it. That's my only
16 comment.

17 CHAIR NICHOLS: I think those are excellent
18 comments. I guess I would say one of the things that
19 we've learned is that a program that initially really was
20 started as more of a foot in the door on innovative
21 technologies, has turned into a program to fund the basic
22 needs of the State to turnover the fleet.

23 And I am completely willing to steel Mrs.
24 Mitchell's terminology about a Superfund for air. But in
25 reality, in many parts of the State, that is what we're

1 dealing with, is we have air quality problems that are
2 very severe, and no practical way in the short run to
3 really address the needs that are out there.

4 And so that to me suggests that -- I don't
5 disagree with what you're saying, but I really do think we
6 need to step back and look at kind of a marshal plan for,
7 you know -- for the -- for the vehicle fleet in the State
8 of California, figure out how much it would cost, and then
9 think about a way to fund it, because there is not going
10 to be a way -- we're never going to be able to satisfy the
11 needs with the sources of funds that we have available to
12 us right now.

13 So rather than just continuing to sort of say,
14 well, we'll do the best we can, which, of courses, we
15 will, I think maybe on a separate track, but a very fast
16 track, we should be thinking about the bigger issue of
17 what's needed there, and putting it out there as part of a
18 broader plan that we would bring forward.

19 BOARD MEMBER FLOREZ: Okay.

20 BOARD MEMBER MITCHELL: Madam Chair, I just have
21 a couple of questions. I'm wondering about the statements
22 made by the natural gas vehicle people that came to the
23 microphone. One thing they mentioned was that the
24 Greenhouse Gas Reduction Fund they see it sort of as a
25 short-term fund, and they're worried about the way we're

1 spending it now, because we may not have much money in the
2 future. So that's one issue to be addressed.

3 The other one that I want you to discuss is that
4 Class 7 and 8 trucks and the low NOx 0.02 certification
5 for low NOx, which real is a CNG engine, would you comment
6 on that? Is that -- that's -- there's a real need on
7 Class 7 and 8 trucks. And that low NOx certified engine
8 is -- seems like our pathway to get to these heavier duty
9 trucks. So just -- and they think there's not enough
10 funding there. So just -- if you could please comment on
11 that?

12 MOBILE SOURCE CONTROL DIVISION CHIEF KITOWSKI:

13 Maybe I'll start with the Class 8 trucks and
14 somebody else might want to chime in on the position of
15 the GGRF funds long term. Although, I would echo Eileen's
16 comments when she came up and said, you know, focusing
17 your energy on the legislature and taking actions next
18 legislative session seemed like a more proactive way to
19 handle it.

20 On the Class 7 and 8 trucks, so let me try and
21 paint the picture here. Right now, the main low-NOx
22 engine, the one that meets the lowest emission standards,
23 is an 8.9 liter engine. That goes primarily into I think
24 the 2 biggest categories are refuse haulers, and into
25 transit buses. And it will also go into sort of those

1 medium-, heavy-duty delivery trucks.

2 Those are the exact same categories that we're
3 talking about when we're talking about electric. We're
4 talking about electric buses, battery powered, fuel cell.
5 It's -- when we're talking about zero emission, we're
6 talking about those delivery trucks as potential
7 applicants.

8 So there's a lot of overlap in that category
9 between those two categories, and we are funding both.
10 And I should note, I think, and Mr. Panson mentioned it,
11 that the \$23 million that we've allocated for the low-NOx
12 engines we believe will fully fund the entire demand of
13 that category of those engines.

14 Largely, what the conversation has been about, is
15 that next engine that's on the horizon, the 12 liter,
16 strongly supportive of it, but it's just not here yet. As
17 was mentioned very recently, I think this month or last
18 month, CEC allocated another million dollars towards
19 helping that get to commercialization. But it's not at
20 that commercialization stage yet.

21 That will help fund the true Class 8, the line
22 hauls, and open up new doors. And so we look forward to
23 that opportunity when that opportunity comes.

24 BOARD MEMBER MITCHELL: Thank you.

25 CHAIR NICHOLS: Any others?

1 Yes.

2 BOARD MEMBER TAKVORIAN: Yeah. Just compliments
3 to everyone. It's a great plan. And I appreciate what
4 you had to do to reduce it.

5 I am particularly inspired by the rural bus
6 program. I think it's really important. It's -- kids on
7 these buses for 3 hours a day is just hard to imagine.
8 And I think that's truly a public health benefit, and so
9 congratulations on that.

10 The only thing I'll say, and I know it's not
11 going into this one, but I'm going to say it again, I
12 really think it's important that we have the secondary ZEV
13 vehicles -- the incentive for that, some kind of a rebate
14 for it. I understand that we have the scrap and replace.
15 I think that's effective, but I also know that folks are
16 just not going to purchase these vehicles. And you can do
17 all the financing assistance you want, averaging income in
18 National City is \$17,000. You're not going to buy a
19 \$30,000 car no matter how much you help them.

20 So I think we really have to think about other
21 ways to help people to get around in a clean way. So I
22 mean, caps of \$300,000 for a family is not low income, and
23 I know you know that, but I just have to say that out
24 loud. It's just -- it's not going to help the families
25 that really need it the most.

1 So, I think, you know, for used vehicles, that
2 could be huge to get some incentive programs going. I
3 think for -- maybe there's some last-mile programs that we
4 could think about, that maybe the active transportation,
5 that bike sharing programs, those kind of things. We've
6 talked with locally -- a local cab union, a union of taxi
7 workers who are very local, represent refugee communities
8 in San Diego, where they are able to take folks to the bus
9 to get -- so that they -- if they have to walk a mile or
10 something like that, that's really, really hard,
11 especially for folks who are working at night. Woman are
12 at risk.

13 So I just think those are the kinds of things
14 that are relatively low cost, that could be interesting
15 pilot programs, that are not technology driven
16 necessarily, but we've got folks out there that are
17 driving cleaner vehicles, and could help people to get to
18 transit and close that loop. So congratulations, and just
19 want to push the envelope a little bit more.

20 Thank you very much.

21 AIR POLLUTION SPECIALIST PANSON: Thank you.

22 BOARD MEMBER GIOIA: Just following up on
23 something, Diane, you mentioned. I do think there is an
24 opportunity to get lower income households into clean
25 vehicles. We don't want them left out of this. And I

1 know we're kicking off a -- so I think we can't ignore
2 that. We can't just say, well, those vehicles are for,
3 you know, folks of means.

4 So we are kicking off, I know, a pilot program
5 that finances the use -- purchase of used clean vehicles.
6 And I think the average cost, I'm told, you know, of these
7 used vehicles was between \$8,000 and \$12,000.

8 And so, you know, they're more -- they can be
9 affordable. And if you link both the -- you know, the
10 program we're someone is scrapping an old vehicle and
11 they're getting funds for that, and they're getting help
12 on the financing, so that they're getting help on both
13 ends, the incentive to -- and so the more we can link
14 those two programs, right, the ability to get an incentive
15 to get rid of your old vehicle, and then the incentive on
16 the financing for the new vehicle.

17 So I am looking forward to the results of this
18 pilot and how we could sort of scale up. And so this
19 additional funding for the scrapping program, that could
20 be available around the State, is important, right,
21 because that gets used for low-income families anywhere.
22 And the finance -- well, within the disadvantaged
23 communities, but the financing part can be used anywhere.

24 So I think -- I think it's useful for you to sort
25 of, maybe at some point, brief us on these types of

1 initiatives. I don't think the public, and many out
2 there, know the programs that we're embarking on. And I
3 think it's really important for us to communicate better
4 about these types of programs that -- of -- and what we're
5 work on.

6 They're hard to start. They're not going to be
7 ease. There's a lot of rolling up your sleeves. And I
8 happen to know the organization that has the contract on
9 this, because they're in my district, and we work with
10 them on affordable housing issues.

11 So, I think, I'm really excited about that. I
12 think it's great, but I think we need to highlight this
13 stuff more. And we have to keep -- we have to stop saying
14 that the electric vehicles aren't for, you know, lower
15 income families. We need to figure out how to make them
16 available, even if the start is used vehicles.

17 Many folks, of whatever income means, including
18 myself, have purchased used vehicles. Not everyone buys a
19 new vehicle. So there's an opportunity here to include
20 everyone in these vehicles, so -- and the more funds we
21 can put into the financing programs of these programs
22 successfully, I think, would really be important.

23 BOARD MEMBER MITCHELL: So, Madam Chair, can I
24 comment on that?

25 CHAIR NICHOLS: Go ahead.

1 BOARD MEMBER MITCHELL: Because we have been
2 participating in that pilot program. And one important
3 component of that is that the replacement vehicle is a
4 cleaner vehicle. It could be a hybrid.

5 BOARD MEMBER GIOIA: Right.

6 BOARD MEMBER MITCHELL: And some of the rebates,
7 depending on how the circumstances, go as high as \$9,500.
8 So with a used vehicle and that kind of additional monies
9 available, it is certainly a good program. It was
10 oversubscribed in our district. We got about 1,000
11 vouchers, and we have a waiting list of so many more.

12 So it is a program that is really working, and
13 that is a message that we want the public to know about,
14 because as you know, this Board has been criticized for
15 giving CVRP money to rich people.

16 And we responded to that with a program like this
17 that has been very, very successful. So we need to get
18 that message out.

19 CHAIR NICHOLS: All right. You know, we have 2
20 goals. We want to get rid of older dirtier vehicles. We
21 also want to disseminate the cleanest vehicle as far and
22 fast as we possibly can. And I think that there may also
23 be other ideas out there coming from cities, for example,
24 that have the fingers on the pulse of some of the specific
25 programs in their own jurisdictions where we could be more

1 open to inviting proposals than we have been perhaps in
2 the past.

3 We have a lot of good ideas about what we want to
4 do, but it's also really good if we can find a way to
5 solicit more of those ideas coming from elsewhere. So all
6 of those are important comments, I think.

7 And more work to be done and no shortage of needs
8 for money to do it with.

9 So on that note, we do have a motion and a second
10 for approving this particular funding plan.

11 And so I will ask all those in favor to please
12 say aye?

13 (Unanimous aye vote.)

14 CHAIR NICHOLS: Opposed?

15 Abstentions.

16 Great. This is really progress. It's going to
17 go a long way. I'm delighted that we're able to move on.

18 We do have one person who signed up for the open
19 public comment. His name is Don Gaede. I'm probably not
20 pronouncing the name properly, but you know who you are.

21 DR. GAEDE: Yes, I do. Thank you Chairwoman
22 Nichols and the Board for the chance to make some brief
23 comments. My name is Don Gaede. I am a physician in
24 Fresno practicing internal medicine and vascular medicine.

25 I'm a member of the Fresno Madera Medical

1 Society, and the California Medical Association. Your
2 Board Member Dr. Sherriffs is a former president of our
3 medical association. And he and I are both passionate
4 about climate change and health. And thank you for all
5 your efforts in that regard.

6 And I thought you might be interested to know
7 what we, in the medical profession, are doing in that
8 regard, because climate and health are increasingly
9 becoming in the news. And we're seeing many threats to
10 our patients' health due to climate change. And so we in
11 the Fresno Madera Medical Association passed a resolution,
12 which then went on to the California Medical Association,
13 passed by their full board.

14 This resolution -- could I just read this to you,
15 briefly here?

16 "Resolved, that the California Medical
17 Association and the Fresno Madera Medical Association
18 recognizes that climate change threatens the health and
19 well-being of the patients served by California's
20 physicians.

21 "And be it further resolved, that the California
22 Medical Association supports efforts to educate patients
23 and the medical community regarding the potential adverse
24 health effects of global climate change.

25 "And be it further resolved that the California

1 Medical Association encouraged health care institutions to
2 review and improve their carbon footprint, and that of
3 their supply chain, and also encourage them to prepare for
4 climate change impacts.

5 "And fourth, and finally, that the California
6 Medical Association support efforts to communicate with
7 our local State and national legislators about the needs
8 to take action to adapt to and mitigate the effects of
9 climate change."

10 So could I just conclude by saying we support
11 your efforts. Our patients are depending on your efforts,
12 our efforts. Our children, our grandchildren are
13 depending on your efforts.

14 So thank you very much.

15 CHAIR NICHOLS: Thank you for your comment.
16 Appreciate it.

17 With that, I think we have finished our business
18 for the day and we can be adjourned.

19 Thank you, all.

20 (Thereupon the Air Resources Board
21 adjourned at 4:26 p.m.)

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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 31st day of October, 2016.



JAMES F. PETERS, CSR
Certified Shorthand Reporter
License No. 10063