

MEETING
STATE OF CALIFORNIA
AIR RESOURCES BOARD

CAL/EPA HEADQUARTERS
BYRON SHER AUDITORIUM
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THURSDAY, DECEMBER 18, 2014
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APPEARANCES

BOARD MEMBERS

Ms. Mary Nichols, Chairperson

Dr. John Balmes

Ms. Sandra Berg

Mr. Hector De La Torre

Mr. John Eisenhut

Mr. John Gioia

Ms. Judy Mitchell

Supervisor Phil Serna

Professor Daniel Sperling

STAFF

Mr. Richard Corey, Executive Director

Dr. Alberto Ayala, Deputy Executive Officer

Ms. Edie Chang, Deputy Executive Officer

Mr. Kurt Karperos, Deputy Executive Officer

Ms. Ellen Peter, Chief Counsel

Mr. Antonio Marin, Acting Ombudsman

Ms. Aimee Barnes, Deputy Secretary for Border and Intergovernmental Relations, CalEPA

Ms. Jennifer Kozumplik, Air Pollution Specialist, Carl Moyer Incentives Oversight Section, Mobile Source Control Division

Ms. Renee Littaua, Staff Air Pollution Specialist, Zero Emission Truck and Bus Section, Mobile Source Control Division

APPEARANCES CONTINUED

STAFF

Mr. Greg Mayeur, Manager, Program Operation Section,
Industrial Sources Division

Ms. Elizabeth Melgoza, Air Pollution Specialist, Air
Quality Planning and Science Division

Ms. Margaret Minnick, International Liaison, Chairman's
Office

Mr. Todd Sax, Assistant Division Chief, MSCD

Ms. Annalisa Schilla, Climate Action and Research Planning
Section, Research Division

Mr. Erik White, Division Chief, MSCD

ALSO PRESENT

Mr. Alan Abbs, Air Pollution Control Officer, Tehama
County

Ms. Wafaa Aborashed, Bay Area Healthy 880 Communities,
CCFC

Mr. Don Anair, Union of Concerned Scientists

Ms. Laura Baker, Coalition for Clean Air

Ms. Diane Bailey, NRDC

Mr. Louis Blumberg, Nature Conservancy

Mr. Steve Brink, California Forestry Association

Mr. Tony Brunello, CE2 Carbon Capitol

Ms. Sheri Buretta, Chugach Alaska Corp.

Mr. Paul Buttner, California Rice Commission

APPEARANCES CONTINUED

ALSO PRESENT

Mr. Tim Carmichael, CNGVC

Mr. Sean Carney, Finite Carbon

Ms. Cynthia Cory, CA Farm Bureau

Mr. Sean Edgar, Cleanfleets.net

Mr. Frank Gallo, Ditching Dirty Diesel/CCFC

Mr. Amrith Gunasekara, representing Secretary of Food and Ag

Mr. Thomas Helme, CCFC & VIP Modesto

Mr. Henry Hogo, South Coast AQMD

Mr. Mark Krausse, PG&E

Ms. Alex Leumer, The Nature Conservancy

Mr. Angelo Logan, East Yard Communities for Environmental Justice

Mr. Bill Magavern, Coalition for Clean Air

Mr. Jesse Marquez, Coalition for a Safe Environment

Mr. Humberto Lugo Martinez, Comite Comite Civico Del Valle

Ms. Jerilyn Lopez Mendoza, SoCal Gas

Mr. Ed Murphy, Sierra Pacific Industries

Mr. Peter Okurowski, Association of American Railroads

Mr. Luis Olmedo, Comite Civico Del Valle

Mr. Robert Parkhurst, EDF

Mr. Brad Poiriez, Air Pollution Control Officer, Imperial County

APPEARANCES CONTINUED

ALSO PRESENT

Ms. Christie Pollet-Young, SCS Global

Mr. Alex Rau, Climate Wedge, LLC

Mr. Gary Rynearson, Green Diamond Resource Company

Mr. Brian Shillinglaw, New Forests

Mr. Chris Shimoda, California Trucking Association

Mr. Adam Smith, Southern California Edison

Mr. Joshua Strauss, Blue Source

Mr. Taylor Thomas, East Yard Communities for Environmental
Justice

Mr. Thomas J. Vessels, Vessels Coal Gas, Inc.

Ms. Joy Williams, Environmental Health Coalition

Mr. Roger Williams, Blue Source

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PROCEEDINGS

1
2 CHAIRPERSON NICHOLS: Ladies and gentlemen,
3 welcome to the meeting of the Air Resources Board as the
4 December 18th, 2014, meeting of our Board. I'm going to
5 call us to order. And this is our last meeting of 2014.
6 So another year has rolled by. I don't know quite how
7 that happened.

8 But before we begin, we will stand and say the
9 Pledge of Allegiance to the flag.

10 (Thereupon the Pledge of Allegiance was
11 Recited in unison.)

12 CHAIRPERSON NICHOLS: Madam Clerk, would you
13 please call the roll?

14 BOARD CLERK JENSEN: Dr. Balmes?

15 BOARD MEMBER BALMS: Here.

16 BOARD CLERK JENSEN: Ms. Berg?

17 BOARD MEMBER BERG: Here.

18 BOARD CLERK JENSEN: Mr. De La Torre?

19 BOARD MEMBER DE LA TORRE: Here.

20 BOARD CLERK JENSEN: Mr. Eisenhut?

21 BOARD MEMBER EISENHUT: Here.

22 BOARD CLERK JENSEN: Supervisor Gioia?

23 BOARD MEMBER GIOIA: Here.

24 BOARD CLERK JENSEN: Ms. Mitchell?

25 BOARD MEMBER MITCHELL: Here.

1 BOARD CLERK JENSEN: Mrs. Riordan?

2 Supervisor Roberts?

3 Supervisor Serna?

4 BOARD MEMBER SERNA: Here.

5 BOARD CLERK JENSEN: Dr. Sherriffs?

6 Professor Sperling?

7 Chairman Nichols?

8 CHAIRPERSON NICHOLS: Here.

9 Sorry. I jumped in early.

10 BOARD CLERK JENSEN: We have a quorum.

11 CHAIRPERSON NICHOLS: Thank you very much.

12 Before we begin this morning, I have a couple of
13 announcements to make. First, a very happy announcement.
14 As you know, at our last meeting, we said farewell to Lynn
15 Terry, our long-time Deputy Executive Officer. I would
16 now like to introduce you to her successor, Kurt Karperos.
17 Many of you already know him because he's had 24 years of
18 professional experience at ARB, including recently
19 overseeing the development of State Implementation Plans,
20 directing our emissions and air quality modeling
21 activities, managing the Sustainable Communities Program,
22 and implementing the consumer products regulation.

23 In fact, kurt was part of the team that developed
24 California's first SIP under the 1990 Clean Air Act
25 amendments for the one-hour ozone standard. He also led

1 SIP development for the 8-hour ozone and PM2.5 standards
2 that have been guiding ARB's rulemaking for the last
3 number of years. We are very pleased to have Kurt taking
4 on this new role. So welcome to the big table here.

5 (Applause)

6 CHAIRPERSON NICHOLS: Next, for anyone who is not
7 an ARB regular, I need to explain that if you want to
8 testify, you should fill out a request to speak card.
9 They're available in the lobby outside the boardroom or
10 from the Clerk. And we appreciate it very much if you
11 would turn those in prior to the item being announced so
12 that the Clerk has an opportunity to make a list and we
13 can see how many witnesses to expect and plan our time
14 accordingly.

15 Also, just a reminder that we impose a
16 three-minute time limit, which could be shortened, but we
17 don't normally shorten it unless things are -- we just
18 hearing a lot of very repetitive testimony.

19 We appreciate it if you state your name when you
20 come up to the podium and if you would put your testimony
21 in your own words rather than reading what you've already
22 submitted to us in writing. Your written testimony will
23 also be submitted into the record.

24 And we're also required to point out for safety
25 reasons the emergency exits at the rear of the room and

1 here on either side of the podium. In the event of a fire
2 alarm, we are required to evacuate the room immediately
3 and go down the stairs and out of the building until we
4 hear the all-clear signal. And then we can return and
5 resume the meeting.

6 The first item on our agenda this morning is the
7 consideration of our proposed Research Plan for fiscal
8 year 2015-16. The annual Research Plan supports ARB's air
9 quality planning efforts, helps us with our regulatory
10 decision making, advances efforts to meet the Global
11 Warming Solutions Act, as well as helping to underscore
12 the ideas that appear in SIPs and other important
13 collaborations with other research funding organizations.

14 So I'll turn to Mr. Corey to introduce this item.

15 DEPUTY EXECUTIVE OFFICER COREY: Thank you,
16 Chairman.

17 Staff's recommending funding 17 projects in this
18 year's Research Plan. The list of proposed projects was
19 developed from a public solicitation of research ideas,
20 plus extensive discussions with ARB program staff and
21 other State and federal agencies. The proposed research
22 projects support ARB's regulatory priorities related to
23 health, air pollution, and climate change.

24 If approved by the Board, staff will develop full
25 proposals for the projects described in the Research Plan

1 and bring them back to the Board for your consideration
2 over the next several months.

3 With that, I'd like to introduce Annalisa Schilla
4 of the Research Division who will describe this year's
5 proposed research studies. Annalisa.

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

8 MS. SCHILLA: Thank you, Mr. Corey. Good
9 morning, Chairman Nichols and members of the Board.

10 --o0o--

11 MS. SCHILLA: Today, we are asking the Board to
12 approve the proposed 2015-16 Research Plan. \$6.5 million
13 is requested to fund 17 research projects that will
14 support the Board's decision-making for key policies and
15 programs.

16 If you approve today, staff will work with
17 researchers over the next few months to develop projects
18 into full proposals. We will then take proposals to the
19 Board's Research Screening Committee for review before
20 returning to the Board to request approval and funding for
21 each research project.

22 --o0o--

23 MS. SCHILLA: ARB's Research Program will
24 continue to play an important role in meeting the
25 challenges of increasingly stringent federal air quality

1 standards and long-term climate goals. The projects
2 included in this Research Plan will help maintain ARB's
3 scientific foundation, identify new emission reduction
4 strategies, and monitor our progress as strategies are
5 implemented.

6 --o0o--

7 MS. SCHILLA: One of the primary goals of the
8 staff plan development process is to ensure the projects
9 support the agency's most pressing program needs.
10 Research Division staff met with their counterparts in the
11 Regulatory and Planning Divisions to identify data and
12 science gaps. Research concepts were also collected from
13 an open, public solicitation. ARB's external Research
14 Screening Committee reviewed the concepts in the proposed
15 Research Plan before you today and will review the
16 resulting proposals.

17 --o0o--

18 MS. SCHILLA: ARB's Research Program was
19 established by the Legislature in 1971. Over the past 40
20 years, the program's research portfolio has been designed
21 to meet ARB's evolving program needs in response to a
22 broad range of legislative mandates. The results from
23 this portfolio have provided vital information to
24 establish regulatory programs in these areas. This year's
25 plan continues that evolution with a strong emphasis on

1 climate-related research.

2 --o0o--

3 MS. SCHILLA: This Research Plan proposes funding
4 projects in three of ARB's key program areas. This slide
5 shows the break-down in funds by major topic area:
6 Health, air quality, and climate change.

7 --o0o--

8 MS. SCHILLA: More specifically, this year's
9 projects will address key questions related to health and
10 exposure, atmospheric science related to ozone and PM,
11 truck and bus emissions and performance, passenger vehicle
12 technologies and incentives, sustainable community
13 development, and short-lived climate pollutant and nitrous
14 oxide emissions and reduction strategies. The remainder
15 of the presentation will provide brief overviews of the
16 major research themes and ongoing research in each of
17 these areas and will present the proposed projects for
18 funding in fiscal year 2015-16.

19 --o0o--

20 MS. SCHILLA: ARB has a long history of funding
21 fundamental research on the health effects of air
22 pollution exposure. Results from ARB's health research
23 program as well as from studies funded by the U.S. EPA,
24 the Health Effects Institute, and the National Institutes
25 of Health have significantly contributed to the scientific

1 basis for both national and state ambient air quality
2 standards for PM2.5 and ozone, which are the only
3 pollutants that still exceed the standards.

4 --o0o--

5 MS. SCHILLA: The health and exposure research
6 portfolio investigates health effects from air pollution
7 exposure, evaluates real-world exposures to pollutants,
8 particularly among California's vulnerable populations,
9 and identifies exposure mitigation strategies. The
10 research outlined in this plan will continue this legacy
11 and support the development of future air quality
12 standards and regulations.

13 For the 2015-16 fiscal year, staff is proposing
14 to follow up on two recent findings. The first finding,
15 from an epidemiological research project, suggests an
16 association between PM2.5 exposure and an increased risk
17 of stroke among women who have never had one before,
18 particularly among those who were postmenopausal. The
19 second finding from another recent study is that infant
20 primates exposed to wild fire smoke showed a reduction in
21 response to microbial challenge, suggesting that the
22 animals could be at greater risk of contracting infectious
23 diseases.

24 --o0o--

25 MS. SCHILLA: The follow up, the first proposed

1 project will provide insights into potential differences
2 in vulnerability to air pollution exposure between women
3 and men. Few studies have addressed this topic, yet there
4 are medical observations that suggest there may be
5 differences in risk between the genders digesters. This
6 project will employ a toxicological approach to follow up
7 on recent epidemiological evidence that PM exposure may
8 pose a greater risk to women's cardiovascular health than
9 men's. The project will focus on mechanisms of PM
10 toxicity in female rodents.

11 The second project will examine whether changes
12 in immune function induced by air pollution exposure can
13 be passed onto offspring. This study will determine
14 whether reduced immune response has persisted in the
15 original group of primates that were exposed to wildfire
16 smoke and whether female animals can pass the change in
17 immune function on to their offspring. The study will
18 also investigate whether the change in immune function has
19 affected the animals' overall health. The results will
20 provide unique insight into the effects of air pollution
21 on infants and how early life air pollution exposure
22 influences health later in life.

23 --o0o--

24 MS. SCHILLA: This proposed Research Plan also
25 continues to fund program-driven projects that support the

1 development of new policies and regulations and track
2 implementation of existing programs to meet California's
3 ambitious air quality and climate goals.

4 Projects in the air quality category will support
5 California's state implementation plans to meet air
6 quality goals established by the federal and California
7 Clean Air Acts and will track progress and improve
8 implementation of existing programs for trucks and buses.

9 --o0o--

10 MS. SCHILLA: ARB research continues to improve
11 the scientific foundation for California's efforts to meet
12 air quality standards and reduce the health risk from air
13 pollution. The primary focus is to improve air quality
14 models used in developing State Implementation Plans,
15 which provide the predictions of future air pollution
16 levels that are fundamental to the development of emission
17 reduction strategies.

18 This year, staff proposed funding two projects,
19 following up on two recent findings. First, field studies
20 indicate that background ozone concentrations are
21 increasing. It is critical that ARB understand the base
22 line ozone in the atmosphere when planning for attainment
23 of future ozone standards. Second, meteorological
24 conditions and chemical processes that have led to recent
25 PM2.5 exceedance events in the South Coast and San Joaquin

1 Valley need to be better understood and are increasingly
2 important in the face of lower PM2.5 standards.

3 --o0o--

4 MS. SCHILLA: The first proposed project seeks to
5 improve understanding of background ozone concentrations.
6 This research will investigate the degree to which
7 out-of-state sources contribute to exceedances of the
8 ozone standard in the San Joaquin Valley. The project
9 will synthesize available data and determine whether a
10 strategically placed measurement network would be able to
11 cost-effectively address significant remaining data gaps.

12 The second project will support updates to the
13 particulate matter modeling for the South Coast and San
14 Joaquin Valley air basins. Meteorological and air quality
15 data that captures high PM episodes will be analyzed to
16 develop a basic conceptual model. These episodes will
17 then be modeled using advanced meteorological and regional
18 air quality models with the goal of incorporating better
19 representation of these episodes in the air quality models
20 used for SIPs.

21 --o0o--

22 MS. SCHILLA: California has a long and
23 successful history of adopting technology-advancing
24 vehicle emission standards to protect public health, built
25 on a strong research foundation. ARB funded research on

1 emissions from trucks and buses is fundamental to the
2 development of accurate emission inventories and
3 projections of future emissions and has informed the
4 development of strategies to meet the goal of the Diesel
5 Risk Reduction Plan adopted in 2000 to reduce diesel PM
6 emissions by 85 percent by 2020.

7 Much of ARB's recent research on heavy-duty
8 vehicles has focused on the durability of emission control
9 technologies, such as diesel particulate filters and
10 selective catalytic reduction, and has also focused on
11 tracking the results of regulatory efforts such as the
12 drayage and truck and bus rules.

13 For the 2015-16 fiscal year, staff propose
14 building on existing research and funding three projects
15 to follow up on recent findings. First, to follow up on
16 preliminary field study results that show on-road
17 emissions being reduced as ARB regulations come into
18 effect. And second, even as these reductions occur,
19 recent testing indicates that emissions from these engines
20 are greater when operated on freeways and roads than what
21 is measured during engine certification.

22 --o0o--

23 MS. SCHILLA: The first proposed project will
24 expand measurements of real world emission rates from
25 heavy-duty vehicles to assess the performance of emission

1 control devices that reduce PM and NOx. ARB is currently
2 funding on-going studies at three locations across the
3 state. However, additional measurements are needed to
4 provide a more complete picture of statewide emissions.
5 The results from this study will help identify high
6 emitters and assess overall emission benefits of
7 after-treatment devices, and will provide insights into
8 the causes and rates of after-treatment failure.

9 The second proposed project will investigate the
10 discrepancy between real world NOx emissions from model
11 year 2010 and newer heavy-duty diesel engines compared to
12 the emissions measured from the same engines during
13 certification. The research will investigate potential
14 modifications to certification procedures and the
15 potential for development of new testing methods and
16 requirements that would increase the effectiveness of
17 emissions testing programs for controlling real world NOx
18 emissions from heavy-duty trucks.

19 The third proposed project will assess the cost
20 effectiveness and economic impacts of a heavy-duty vehicle
21 emissions verification program. Drawing on insights
22 gleaned from California's Smog Check Program and similar
23 programs in other states and countries, this project will
24 review various methods for emissions verification and will
25 design a prototype heavy-duty vehicle emissions

1 verification program that is practical, technologically
2 feasible, and cost effective for both regulated and
3 regulatory entities.

4 --o0o--

5 MS. SCHILLA: Now we'll turn to ARB's climate
6 change research.

7 The Research Program includes investigations of
8 emission sources and potential mitigation strategies for
9 greenhouse gases. These research efforts have led
10 directly to some of the regulations and programs now in
11 place to meet California's climate goals. The 2013 update
12 to the AB 32 Scoping Plan outlined strategies to keep
13 California on track to meet the goals of AB 32. This
14 Research Plan will continue to address ARB's climate
15 related research needs through studies that support the
16 Advanced Clean Cars and Sustainable Communities Programs,
17 improve understanding of short-lived climate pollutants
18 and nitrous oxide, and perform economic assessment of
19 potential emission reduction strategies for high global
20 warming potential fluorinated gases.

21 --o0o--

22 MS. SCHILLA: In 2012, the Air Resources Board
23 adopted the Advanced Clean Cars Program to reduce the
24 emissions from passenger vehicles in accordance with
25 California's long term air quality and climate goals. As

1 a result, ARB funded research on passenger vehicles has
2 expanded beyond emissions measurements and now includes a
3 portfolio of projects that address market forces, consumer
4 acceptance, and driving and fueling behavior associated
5 with new vehicle technologies. Results from these
6 projects will inform the mid-term review of the Advanced
7 Clean Cars Program, when the appropriateness of the ZEV
8 targets and greenhouse gas and PM standards will be
9 evaluated.

10 This year, staff proposed funding two projects.
11 One will build on current research on ZEV adoption and
12 use, which are still poorly characterized. The other will
13 inform future changes to ARB's light duty incentive
14 programs to address recent legislation.

15 --o0o--

16 MS. SCHILLA: The first proposed project will
17 characterize how drivers are using and charging or
18 refueling their plug-in electric and fuel cell vehicles.
19 This project expands upon existing research to include new
20 vehicle technologies, such as fuel cells, and will provide
21 insight into travel and charging behavior over the life of
22 plug-in vehicles. We are looking to understand changes in
23 charging behavior and response to battery deterioration
24 and changes in the availability of charging
25 infrastructure. Results from this research will improve

1 projections of electricity demand and emissions from the
2 light duty fleet, and will inform the deployment of
3 charging and fueling infrastructure.

4 The second proposed project will evaluate various
5 options for modifying ARB's light-duty incentive programs.
6 This project will investigate the relative efficacy of
7 different forms and amounts of incentives for encouraging
8 adoption of the cleanest vehicle technologies with an
9 emphasis on how to most cost effectively and Equitably
10 increase uptakes of these vehicles in disadvantaged
11 communities. The results of this study will inform
12 decisions about the future of incentive programs in
13 support of widespread ZEV adoption across California and
14 in disadvantaged communities, in particular.

15 --o0o--

16 MS. SCHILLA: ARB has a variety of sustainable
17 communities research projects underway to support
18 California's efforts to reduce greenhouse gas emissions
19 from land use transportation and buildings. These
20 projects look to advance emissions reductions from either
21 the built environment or from land use and transportation
22 in support of SB 375. Results from these projects are
23 designed to assist local governments, planners, and other
24 practitioners in the development of sustainable
25 communities strategies.

1 This year, staff propose building on existing
2 research and funding three projects. These projects
3 support quantification of the greenhouse gas benefits of
4 sustainable communities strategies and will build on the
5 recent finding that green buildings have greenhouse gas
6 benefits beyond energy use.

7 --o0o--

8 MS. SCHILLA: The first proposed project will
9 provide a base line of current land use throughout the
10 state and will inform the development of metrics for
11 tracking the extent to which shifts in regional and local
12 planning are resulting in actual changes in land use
13 across the state through time.

14 The second proposed project will evaluate the
15 travel demand and associated greenhouse gas emissions
16 implications of placing affordable housing in
17 transit-oriented development and will provide insight into
18 the economic, health, and other impacts on residents in
19 those developments.

20 The third proposed project will evaluate the
21 technical feasibility of zero carbon buildings, which were
22 identified in the first update to the Scoping Plan as a
23 strategy that could help California achieve our post-2020
24 climate goals. Zero or near zero-carbon buildings
25 generate almost no greenhouse gas emissions over the

1 course of a year from the energy, water, waste, and
2 transportation impacts of the building. The results of
3 this study will be used to assess the practicality and
4 appropriate time frame for a zero or near zero carbon
5 building State policy or program.

6 --o0o--

7 MS. SCHILLA: ARB funds a variety of research
8 projects to verify and improve the State's greenhouse gas
9 emission inventory and to identify promising emission
10 reduction strategies and policies. Although CO2 emissions
11 constitute the largest share of California's inventory,
12 short-lived climate pollutants and nitrous oxide are
13 significant and have greater potential to warm the
14 atmosphere per ton of emissions. As a result, new
15 strategies to reduce emissions of short-lived climate
16 pollutants and nitrous oxide offer tremendous potential
17 for climate benefits.

18 This year, staff proposed funding five projects
19 to improve emission inventories and evaluate potential
20 strategies to reduce emissions, following up on two recent
21 findings. First, field studies indicate that emissions of
22 methane and nitrous oxide may be larger than estimated in
23 California's inventory. And second, emissions of
24 fluorinated gases continue to grow and as a result further
25 reductions will be needed to meet California's long-term

1 climate goals.

2 --o0o--

3 MS. SCHILLA: The first two proposed projects
4 will provide insights into methane and nitrous oxide
5 emissions from dairy operations in California. Currently,
6 California's inventory relies on assumptions based on
7 global or national default values due to a lack of
8 California-specific information.

9 The first proposed project will evaluate the
10 chemical and physical characteristics of California dairy
11 manure and manure management practices and associated
12 greenhouse gas emissions.

13 The second project will collect data on cattle
14 feed rations in California to improve emissions estimates
15 associated with enteric fermentation. The results from
16 these projects will improve California's emission
17 inventory and offer insights into potential mitigation
18 strategies.

19 The third project will evaluate a variety of
20 strategies to reduce emissions of fluorinated gases, which
21 are primarily used in refrigeration and air conditioning
22 systems. Emissions of these gases continue to grow, and
23 this project will provide insights into the most effective
24 policies for encouraging F gas alternatives that have
25 lower global warming potential.

1 --o0o--

2 MS. SCHILLA: The last two proposed projects for
3 this fiscal year will improve ARB's nitrous oxide
4 emissions inventory. The first project will conduct field
5 measurements at key sites to improve estimates of nitrous
6 oxide emissions from sources that are currently believed
7 to be missing or underestimated in the current inventory.
8 Examples of likely sources include landfills, sewage
9 systems, and urban landscapes, such as golf courses where
10 fertilizer use is significant.

11 The last project will continue greenhouse gas
12 monitoring in California at the Walnut Grove Tower for
13 three additional years. This data collection effort will
14 allow for more comprehensive modeling to evaluate the
15 statewide methane and nitrous oxide inventories. The
16 research will focus on emission sources in the San Joaquin
17 Valley and will improve estimates of emissions,
18 particularly from dairies, oil and gas operations, and
19 landfills.

20 --o0o--

21 MS. SCHILLA: In keeping with the mission of
22 ARB's research program, the projects proposed in this plan
23 will continue to strengthen the scientific foundation of
24 ARB's health, air pollution, and greenhouse gas control
25 programs. It will help identify future strategies to

1 reduce emissions of air pollutants and greenhouse gases,
2 and they will track the effectiveness of ARB's programs.

3 --o0o--

4 MS. SCHILLA: This year's Research Plan reflects
5 ongoing coordination with federal and State agencies and
6 leverages multi-million dollar funding commitments over
7 the last five years from NASA, the National Institute of
8 Science and Technology, the California Energy Commission,
9 the California Department of Food and Agriculture, and the
10 U.S. EPA, the US Department of Transportation, and others.

11 Continued coordination with the State and federal
12 agencies enables ARB to participate in projects and
13 studies outside the reach of ARB's research budget alone.

14 --o0o--

15 MS. SCHILLA: ARB staff have been placing a
16 growing emphasis on sharing the results of our research,
17 including disseminating new results to other researchers
18 and to the public through conferences, stakeholder
19 meetings, webinars, press releases, final reports, and
20 updates at Board meetings.

21 ARB's recently improved research website provides
22 overviews of all of ARB's research-related activities and
23 products. An initiative to increase media attention in
24 conjunction with an added focus on research seminars and
25 workshops produced a 40 percent increase in web hits in

1 fiscal year 2013-14 compared to the previous year.

2 ARB staff are also improving and developing other
3 tools to share research results with a wider audience,
4 including research syntheses that highlight key research
5 themes and a forthcoming newsletter which will highlight
6 recent results and which staff expect will be released
7 biannually in the future.

8 Staff are committed to continuing to raise the
9 profiles of ARB's research program and to sharing the
10 results with other government agencies, partners, and
11 funding organizations as well as with interested members
12 of the public.

13 --o0o--

14 MS. SCHILLA: If the 2015-16 Research Plan is
15 approved today, staff will work with our research partners
16 to bring full proposals to the research screening
17 Committee. Then we will return to the Board to request
18 approval and funding for each project. We recommend that
19 you approve the 2015-16 annual Research Plan.

20 CHAIRPERSON NICHOLS: Thank you, Annalisa.

21 I'm informed no one has signed up to testify on
22 this item. There may be at least one Board member comment
23 on it. I'll start there. Dr. Balmes.

24 BOARD MEMBER BALMES: Thank you, Annalia, for
25 presenting what I think is a thoughtful staff approach to

1 research for the coming year. But I guess I would have
2 one cautionary note. While I think the research proposed
3 on climate change and air quality are important and I
4 support what's been recommended, the dollar amount towards
5 health and exposure has been going down over the years.
6 And I don't think that necessarily reflects the reality of
7 what we need to know about, especially as we get cleaner
8 conditions in the sense that we have lower levels of
9 criteria pollutants. Our policies have been successful.
10 And in light of the fact that the EPA is likely going to
11 be able to fund less health effects research related to
12 air pollutants because of fiscal pressures which are only
13 going to get worse with the recent election. I think that
14 we need to pay attention to health issues.

15 Again, I'm totally supportive of what's been
16 proposed today. But I don't want to see the health and
17 exposure piece of the pie shrink to nothing.

18 CHAIRPERSON NICHOLS: Well, I think it's a good
19 point that we've added more and the overall budget hasn't
20 gone up. So by definition, this is getting to be a
21 smaller slice.

22 I was going to comment just that the research
23 budget does not grow in proportion to the overall need for
24 research. And when I look at the amounts on some of these
25 proposals just from experience over the years, we're

1 trying to get a lot for a very small amount of money. I
2 hope -- I assume and from what I've seen I think we are
3 using our money very strategically and carefully. But
4 even so, it is a small budget, and it would be great if we
5 could find a way to augment it.

6 BOARD MEMBER BALMES: If I could add to that.
7 And given I think -- is it still a ten percent overhead
8 rate with regard to U.C.? But that's to the point where
9 in the past when I had CARB funding, when you were having
10 to justify space for laboratories, that didn't even count
11 as funding research to my Dean. Hopefully we can keep
12 that ten percent indirect rate.

13 CHAIRPERSON NICHOLS: Yes. Yes.

14 Any other comments? If not, I would like a
15 motion to approve the Research Plan.

16 BOARD MEMBER BALMES: I so move.

17 BOARD MEMBER SERNA: Second.

18 CHAIRPERSON NICHOLS: All in favor, please say
19 Aye.

20 (Unanimous aye vote.)

21 CHAIRPERSON NICHOLS: Opposed? Great. Thank
22 you.

23 We will move to the Imperial County 2013 SIP for
24 implementing the 24-hour PM2.5 standard that went into
25 effect in 2006.

1 This plan is based on the Clean Air Act provision
2 that considers the impact of international cross-border
3 transport pollutants, in this case, of course, the border
4 of California and Mexico.

5 We're also going to be talking later about some
6 of our other international work on climate and air
7 quality. And certainly one of the most important
8 relationships that we have in that regard is with Mexico.

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

10 DEPUTY EXECUTIVE OFFICER COREY: Yes, thanks,
11 Chairman.

12 In 2009, U.S. EPA designated a portion of
13 Imperial County as non-attainment with the 35 micrograms
14 per cubic meter 24-hour PM2.5 standard. This designation
15 was based on PM2.5 data collected at the Calexico monitor
16 located less than a mile from the U.S. border with Mexico.

17 Due to its proximity to the border, the city of
18 Calexico is impacted by emissions from the much larger
19 city of Mexicali, Mexico. The resulting pollution is
20 transported across the border into Calexico, especially
21 during the winter months. The Clean Air Act includes a
22 provision recognizing that cross-border impacts of
23 internationally transported air pollution may cause
24 violations of the standard.

25 In these cases, the Act does not require states

1 to develop an attainment strategy addressing pollution
2 that originates from sources beyond the United States
3 borders. The 2013 PM2.5 plan for Imperial County includes
4 a demonstration that Imperial County would have attained
5 PM2.5 standard absent pollution from Mexico. ARB, the
6 Imperial district, and U.S. EPA continue to work with the
7 Mexican government on understanding air pollution impacts
8 and measures to reduce pollution in the region. We'll be
9 asking the Board today to approve the plan as a SIP
10 revision and submit it to U.S. EPA.

11 I'll now ask Elizabeth Melgoza to give the staff
12 presentation. Elizabeth.

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

15 AIR POLLUTION SPECIALIST MELGOZA: Thank you, Mr.
16 Corey.

17 Good morning, Chairman Nichols and members of the
18 today.

19 Today, I'll report on air quality in Imperial
20 County and describe the Imperial County 2013 SIP developed
21 to address the federal 24-hour PM2.5 standard.

22 --o0o--

23 AIR POLLUTION SPECIALIST MELGOZA: I will begin
24 today's presentation by providing background on the nature
25 of PM2.5 air quality in Imperial County and the impact of

1 emissions from Mexico on PM2.5 levels in the border
2 region.

3 I will also discuss the Clean Air Act provisions
4 addressing cross-border pollutant transport and technical
5 demonstration to assess the impact on those emissions on
6 attainment of the PM2.5 standard in Imperial County.
7 Finally, I will highlight SIP planning efforts and
8 activities underway to improve border air quality.

9 --o0o--

10 AIR POLLUTION SPECIALIST MELGOZA: Imperial
11 County is located in the southeast portion of the state
12 and shares a common border with Mexico. While much of the
13 county is open desert land with few emission sources, the
14 central portion of the county is more urbanized and is
15 designated as non-attainment for the federal 24-hour PM2.5
16 standard of 35 micrograms per cubic meter.

17 The non-attainment area identified in this map
18 with a dashed line includes the cities of Brawley, El
19 Centro, and Calexico, which together represent 60 percent
20 of the county's population. The non-attainment area's
21 location within an inland valley provides conditions
22 conducive to pollutant build up. This, together with the
23 transport of pollutants from Mexicali, Mexico presents
24 significant air quality challenges for the area. Despite
25 these challenges, PM2.5 concentrations in the

1 non-attainment area improving.

2 --o0o--

3 AIR POLLUTION SPECIALIST MELGOZA: The cities of
4 Brawley, El Centro, and Calexico have similar populations,
5 ranging from 25,000 to 43,000. Emission sources in all
6 three cities are also similar, with key categories
7 including unpaved road dust, fugitive wind blown dust,
8 agricultural burning, and tilling emissions from farming
9 operations.

10 As a result, PM2.5 concentrations measured in
11 Brawley and El Centro are similar, with levels well below
12 the federal 24-hour PM2.5 standard.

13 Concentrations in these two cities continue to
14 decline due to ongoing implementation of State and local
15 control programs. In contrast, while concentrations at
16 Calexico have also decreased, PM2.5 levels are more than
17 twice those of Brawley and El Centro and remain above the
18 federal standard.

19 --o0o--

20 AIR POLLUTION SPECIALIST MELGOZA: The Calexico
21 monitor is located less than a mile from the border with
22 Mexicali, Mexico. As such, this monitor measures PM2.5
23 concentrations that reflect the combined impacts of
24 emissions from both Calexico and Mexicali. This aerial
25 photograph looking south from Calexico into Mexicali

1 illustrates the differences between these two border
2 cities. The city of Mexicali with a population of nearly
3 700,000 has approximately 18 times the population of
4 neighboring Calexico. Mexicali emissions are also several
5 orders of magnitude higher than emissions in the Imperial
6 County non-attainment area.

7 While Calexico is impacted by emissions from
8 Mexicali on a daily basis, on a few days each year, this
9 impact is large enough to cause exceedances of the 24-hour
10 PM2.5 standard. This impact is most prevalent during the
11 winter when cold stagnant weather conditions allow the
12 build-up of PM2.5 pollution along the border. These
13 exceedance days also often coincide with wintertime
14 holiday celebrations in Mexico where the use of bonfires
15 and fireworks is commonplace.

16 --o0o--

17 AIR POLLUTION SPECIALIST MELGOZA: Congress
18 recognized the impact international areas could have on
19 the air quality in the U.S. Thus, the Clean Air Act
20 allows states to take into consideration the contribution
21 of cross-border transport or pollutants. Under this
22 provision, the Act does not require states to develop an
23 attainment strategy addressing pollutants that originate
24 outside the U.S.

25 SIPs developed under this provision must include

1 a technical demonstration to identify the impacts of
2 international emissions. However, these plans must also
3 comply with all other act requirements to demonstrate that
4 appropriate local and state actions have been taken to
5 reduce emissions and provide ongoing public health
6 protection.

7 --o0o--

8 AIR POLLUTION SPECIALIST MELGOZA: The technical
9 demonstration for Calexico followed U.S. EPA guidance for
10 assessing the impact of emissions from outside the
11 United States. The guidance identifies five types of
12 analyses that may be used to evaluate the impact of
13 international emissions on the non-attainment area. Staff
14 applied each of these suggested analyses in the technical
15 demonstration.

16 As part of this comprehensive assessment for each
17 of the days exceeding the 24-hour PM2.5 standard, staff
18 reviewed available emissions, weather, and air quality
19 data to assess the sources and origin of the pollution
20 impacting Calexico.

21 These analyses included evaluation of wind
22 patterns to determine the association between winds from
23 the south and elevated PM2.5 levels in Calexico. A
24 comparison of the magnitude and types of emissions on both
25 sides of the border was also conducted.

1 Finally, the chemical makeup of PM2.5 on
2 exceedance days was analyzed along with emissions
3 information to identify the sources of PM2.5 at Calexico.

4 --o0o--

5 AIR POLLUTION SPECIALIST MELGOZA: Based on this
6 assessment, a consistent pattern on all exceedance days
7 emerged. All days had very low wind speeds with
8 predominant winds from the south.

9 As a result, the highest PM2.5 concentrations
10 occurred near the border, with decreasing levels at
11 locations further north. This figure on the right shows
12 the pattern for one of the exceedance days, December 23rd,
13 2012. At the southern-most site, Mexico, 24-hour PM2.5
14 levels reached 187 micrograms per cubic meter with the
15 Calexico monitor recording a concentrations of 64.7
16 micrograms per cubic meter and levels dropping to well
17 below the standard at Brawley.

18 Staff also examined the chemical make up of PM2.5
19 samples on these days. Elements such as chromium and zinc
20 normally measured at very low levels throughout the state
21 were five to eight times higher at Calexico than at El
22 Centro and Brawley. These elements are indicators of the
23 burning and fireworks that occur as part of holiday
24 celebrations in Mexicali. Taken together, these analyses
25 demonstrate the cross-border impact of emissions from

1 Mexicali on PM2.5 levels in Calexico. Absent these
2 impacts, Imperial County would have been in attainment of
3 the 24-hour PM2.5 standard.

4 --o0o--

5 AIR POLLUTION SPECIALIST MELGOZA: To ensure air
6 quality improves throughout the region, the SIP must still
7 address remaining Clean Air Act requirements for a
8 moderate non-attainment area. The SIP demonstrates
9 reasonably available emission control measures are applied
10 to sources of PM2.5 in Imperial County, including
11 regulations addressing fugitive dust and agricultural
12 burning. Quantitative emission milestones are also
13 included to show that the non-attainment area continues to
14 make progress in reducing emissions.

15 In addition, the SIP includes a commitment for
16 further study measures to examine the potential for
17 additional ammonia emission reductions from several
18 sources. These include confined animal facilities,
19 composting facilities, and agricultural fertilizers.
20 Through these requirements, the SIP demonstrates that
21 local emissions sources have appropriate controls in
22 place, and emissions are at a level sufficient to provide
23 for attainment of the 24-hour PM2.5 standard.

24 --o0o--

25 AIR POLLUTION SPECIALIST MELGOZA: In ongoing

1 efforts to improve the health of residents in the border
2 region, the district, ARB, and the EPA are working closely
3 with the government of Mexico to help identify and
4 implement programs that will improve air quality. This
5 slide highlights some of the key activities currently
6 underway in the Imperial Mexicali border region. These
7 activities focus on a number of program areas, including
8 international cooperation, education, and outreach, air
9 quality monitoring, and enhanced inspections and
10 enforcement.

11 Most recently, in July of this year, Governor
12 Brown signed an MOU with Mexico's Ministry of the
13 Environment identifying specific areas of joint
14 cooperation related to emissions inventory development,
15 air quality monitoring, and planning.

16 Through a collaborative effort via the border
17 2020 program, EPA, the Border Environmental Cooperation
18 Commission, the district, and the Imperial Valley Mexicali
19 Air Quality Task Force have been funding a no-burn radio
20 and television campaign in the winter, when burning and
21 pollution is expected to be high. This campaign helps
22 educate the Mexicali community concerning the health
23 impacts from open burning.

24 To better understand the impact of emissions on
25 Mexicali air quality, ARB and officials from Baja

1 California recently began developing a plan to conduct
2 PM2.5 monitoring at several sites in Mexicali. This
3 binational multi-year monitoring effort is expected to
4 begin in 2015 and will produce high quality information on
5 PM2.5 air quality in Mexicali.

6 --o0o--

7 AIR POLLUTION SPECIALIST MELGOZA: Finally, the
8 ARB's heavy-duty vehicle inspection program is focused on
9 improving border air quality by reducing the amount of
10 diesel emissions from heavy-duty vehicles. Heavy-duty
11 vehicles are routinely inspected at border crossings in
12 Calexico to ensure that the trucks and buses entering the
13 state meet California's strict vehicle emissions
14 standards. Work is also being conducted to provide an
15 improved understanding of the impacts of vehicle idling at
16 the border-crossing stations.

17 --o0o--

18 AIR POLLUTION SPECIALIST MELGOZA: In closing,
19 staff determined that the Imperial County 2013 PM2.5 plan
20 meets all applicable moderate area requirements of the
21 Clean Air Act. Therefore, staff recommends that the Board
22 approve the Imperial County 2013 PM2.5 plan as a revision
23 to the California SIP for transmittal to EPA. ARB will
24 continue to work with our partners to improve air quality
25 in this region as well as with the district on development

1 of the upcoming SIP for the revised annual PM2.5 standard
2 due in 2016.

3 That concludes my presentation. We will be happy
4 to answer any questions.

5 CHAIRPERSON NICHOLS: We have two witnesses who
6 have signed up. Why don't we hear from them first,
7 starting with the Imperial County Air Pollution Control
8 Officer, Brad. Welcome.

9 MR. POIRIEZ: Good morning. Thank you. Pleasure
10 to be here.

11 Brad Poiriez, Air Pollution Control Officer for
12 Imperial County.

13 I'll be brief in my comments. The majority of
14 them are going to be reflected on the cooperation and
15 support that we received from your staff so far. But I
16 did want to on behalf of my Board of Directors mention
17 that we do support your staff's recommendation to you for
18 approval of this and urge you to approve it.

19 Imperial County is unique, as some of you may
20 know. We're a rural district right on the border of
21 Mexicali Mexico and a dry desert area. So we're faced
22 with many unique challenges, such as cross-border
23 transport as one is a big component of this and the
24 attainment demonstration, as well as such issues that are
25 going to come before you in the coming years such as the

1 Salton Sea. We do have a lot of challenges. We have
2 limited funding, minimal amount of staff. That's why we
3 do rely on your expert staff to assist us in these
4 planning efforts. It's no easy task. As a matter of
5 fact, this plan has taken about two years to compile and
6 present, not only before my Board, but also before yours.

7 So I do want to thank Mr. Corey. He was
8 appointed about the same time as I came on as president of
9 CAPCOA. And I think he's ushered in an era of great
10 cooperation amongst the air districts with CARB and that's
11 reflected down to his staff level. We have a great
12 working relationship with all of them.

13 So I'd like to -- if you don't mind, I'd like to
14 name them by name, because they need some recognition for
15 this. Karen Magliano, appreciate all of her work over the
16 years. We've worked together for too many years to
17 probably count. Webster Tasat, he actually made it down
18 and presented on behalf of CARB at our public workshops.
19 We greatly appreciated that. Elizabeth Melgoza, she's
20 been our liaison for many years also. She recognizes the
21 challenges we face and really grasp it and takes it full
22 head on and really helps us out a lot. Also, I'd like to
23 thank Gabe Ruiz, who's not in the audience. Carey
24 Anderson, Dr. Eugene Kim, Casia Turkowitz, Earl Withicomb,
25 he's here in the audience, too. He's been very familiar

1 with the monitoring and all the associated efforts we do
2 at the border, as well as the Salton Sea. And also Silvia
3 Vanderspect who came and presented on behalf of CARB
4 before our Board at our hearing. She's helped us greatly
5 also.

6 And also my staff, my assistant Reyes Ramero,
7 he's in the audience today, as well as Monica Susia and
8 Baylin Lopez. So that's two people in my office that
9 actually are in the planning department to try to put
10 together a PM2.5 SIP of this magnitude. So I want to
11 thank them publicly as well as.

12 CHAIRPERSON NICHOLS: We'll extend your time for
13 another minute.

14 MR. POIRIEZ: I guess I can sum up. Basically,
15 again, appreciate all the cooperative effort. This is a
16 very highly technical attainment demonstration put before
17 you today. A lot of hard work went into it. And my Board
18 thanks you and your staff, and we urge you to approve the
19 SIP. Thank you. I'll be available for questions at the
20 end.

21 CHAIRPERSON NICHOLS: Very good. If we have any,
22 we'll call on you.

23 All right. We'll hear from Luis Olmedo from the
24 Comite Civico Del Valle.

25 MR. OLMEDO: Good morning, Board Chair and

1 members of the Board.

2 My name is Luis Olmedo. I'm the Executive
3 Director of the nonprofit organization Comite Civico Del
4 Valle located in Brawley, Imperial County. And Comite
5 actively works on many public health and environmental
6 issues in the Imperial and Riverside Counties. And we
7 hosted our annual environmental health leadership summits.
8 Comite greatly appreciates CARB's, ARB's, and EPA's focus
9 on Imperial County.

10 It has been a long battle to improve air quality
11 in Imperial County. Imperial County's PM fugitive dust
12 rules have been litigated back and forth to the US 9th
13 District of Appeals since 2000. And Comite has been
14 involved in this litigation since 2008 working closely
15 with the U.S. EPA as well.

16 Too often, our county has fought air quality
17 rules. This hearing today is about the 2013 PM2.5 24-hour
18 standard 35 micrograms two cubic meters. And Calexico is
19 in violation of the standards and again the county's
20 conclusion is that Mexico is solely to blame. Monitoring
21 shows between two to eleven days of PM2.5 violations in
22 Calexico depending on the monitoring interpretation as set
23 forth in our supplemental expert comment dated December
24 3rd on your record.

25 Also, EPA has raised several concerns about

1 Imperial's air monitoring protocols and set forth in
2 Exhibit B, ALSO in your record.

3 This is a public health concern. The California
4 Department of Public Health has found that Imperial County
5 has the highest rate of childhood asthma hospitalization
6 in the state, registering nearly three times the state
7 average and also in 2014 the Robert Wood Johnson
8 Foundation California's health ranking Imperial County 55
9 out of 57 counties -- 55th out of 57 counties. Overall
10 health factors including environmental quality. We
11 appreciate CARB being involved to keep a very close eye on
12 our local SIP rules.

13 With regard to the SIP, we have several concerns
14 as set forth in our November 25th letter that you have on
15 the record. One is the need for a reported audited 2.5
16 monitor in the Salton Sea. We'd like to see a monitor
17 located there. That was one of our recommendations from
18 our consultant.

19 But also serious concerns about the Imperial
20 County's conclusions and its rules of 701 and 800 through
21 806 to control fugitive dust from agricultural burning,
22 open areas, unpaved roads, and agricultural sources that
23 constitute reasonable available control measures, RACM,
24 and reasonable available control technologies, RACT, under
25 the Clean Air Act. Even if Mexico's emissions are

1 responsible, our air district's fugitive dust rules must
2 meet RACM and RACT.

3 Could I ask for a couple more minutes?

4 CHAIRPERSON NICHOLS: We're trying to enforce the
5 rules. And I know you're reading from your testimony. If
6 you could just summarize it in a minute or so, we'll let
7 you finish.

8 MR. OLMEDO: As set forth in our letter, we feel
9 these rules and enforcement thereof can be improved.

10 I also want to note that several commitments of
11 the Air Pollution Control officials have made in our local
12 approval of these rules and some of these include more
13 public outreach, identify funding to allow programs,
14 designate a school flag program, consideration of a
15 monitor that they also committed to looking into that,
16 installing a flag pole in their facility, and develop a
17 notification program to notify the broader community
18 whenever there is hazardous air quality.

19 And in conclusion, I'd like to ask that the U.S.
20 EPA made a commitment to work with our local air district.
21 We'd like ARB to also make a similar commitment and to
22 also help us find the resources to implement a more robust
23 program.

24 CHAIRPERSON NICHOLS: If I could just ask you, on
25 the sign-up sheet it indicates that you're opposed. But

1 it doesn't sound like you're really asking us not to
2 approve the plan. You just want us to add some additional
3 or make some commitments that would make it more from your
4 perspective work better.

5 MR. OLMEDO: Our idea would be that Imperial
6 County improve its rules, as we indicated the rules very
7 extensively explained it in our letter.

8 CHAIRPERSON NICHOLS: Right.

9 MR. OLMEDO: But if that's not an outcome of
10 this, we'd like to see a very strong commitment from ARB
11 to work with our county to improve these rules.

12 CHAIRPERSON NICHOLS: That's a clarification.
13 Appreciate it very much.

14 MR. OLMEDO: I'd like to thank you for allowing
15 us to make our comments and for keeping a close eye and an
16 audited watchful eye on Imperial County. Thank you.

17 CHAIRPERSON NICHOLS: Thank you.

18 Any additional questions or comments from the
19 Board? Yes.

20 BOARD MEMBER MITCHELL: Thank you, Madam Chair.

21 I just want to comment that I serve on the
22 regional counsel of SCAG. And I know from comments
23 received at that regional counsel from our representatives
24 from Imperial County that there is concern about this
25 cross-border traffic. And in particular, the truck idling

1 at that border. And I want to thank our ARB staff for
2 their attention to that problem and encourage them to keep
3 working with Imperial County and working on those problems
4 that result from our cross-border traffic. So thank you.

5 CHAIRPERSON NICHOLS: Any other questions?
6 Comments?

7 Yes, Ms. Berg.

8 BOARD MEMBER BERG: I just want to also thank our
9 witness for coming out. I know that it was a long trip
10 for you to come up and I appreciate that. And nice to see
11 you, Brad.

12 I think education and public outreach, which I
13 know Imperial County also our local district has been
14 working quite diligently and getting out education. Want
15 to really encourage the continued education as well as
16 certainly believe from ARB that there is a commitment to
17 the Imperial County and whatever we can do to continue to
18 help look at additional regulations that make sense, but
19 also to educate people as to what has been done and what
20 is being done and sharing data. So that we're all making
21 decisions from a database that is kind of common knowledge
22 and common practice. So thank you very much for your
23 effort. Thank you for coming out and giving us a local
24 perspective as well.

25 CHAIRPERSON NICHOLS: I'm actually pleased. I

1 was very pleased to hear Brad Poiriez's comments about ARB
2 staff. Of course, it's always good to have our staff
3 praised. But I was also struck by the fact that we
4 actually have been investing more resources than I was
5 aware of in helping to bring this plan to fruition. And I
6 appreciate that fact. I think this place deserves it,
7 given the complexities and difficulties of the air
8 situation and the fact that it is one of the places in our
9 state that has some of the greatest concentrations of
10 poverty and unemployment, et cetera. We really need to be
11 making an extra effort there.

12 I would like to say just personally that I think
13 we should accept the request to continue to pay attention
14 here and not just assume that once we passed the plan,
15 that's the end of it, that it will all be
16 self-implementing. And in particular, I also want to
17 recognize the involvement of the local community and the
18 Comite and helping to make sure that we don't forget about
19 Imperial.

20 So with that, I think we can probably just go
21 ahead and approve the plan.

22 Would you like to make a motion?

23 BOARD MEMBER BERG: I move.

24 BOARD MEMBER DE LA TORRE: Second.

25 CHAIRPERSON NICHOLS: All in favor, please say

1 aye.

2 (Unanimous aye vote.)

3 CHAIRPERSON NICHOLS: Any opposed?

4 Any abstentions? Very good. Thank you all.

5 Our next item is an update to the Board on
6 international coordination. As a leader in addressing air
7 quality and climate change issues, the Air Resources Board
8 has a long history of working with foreign countries on
9 these challenges. Now with the air quality crisis in
10 China getting daily attention in the press, as well as
11 increased worldwide attention on reducing greenhouse gas
12 emissions, our interactions with foreign countries have
13 become both more frequent and in many ways more
14 substantive.

15 Working with other jurisdictions on climate
16 change and air quality has been a real priority area for
17 Governor Brown. He's recently signed Memoranda of
18 Understanding, or MOUs, with China and Mexico and others,
19 which then in turn need to be implemented and lead to
20 further collaborative work on our part as well.

21 So it seemed like a good time to give the Board
22 an update on what's going on within ARB with respect to
23 international programs. And starting with the fact that
24 we now have one person whose job it is just to coordinate
25 all of our various international activities.

1 On a personal note, I recently attended a meeting
2 in India. I've been going to various international
3 meetings on climate, and I turned down ten for every one
4 that I actually decide I need to go to. But this one was
5 particularly interesting because it was what's called a
6 track two climate dialogue, meaning an international
7 diplomatic speak that it was a convening of policy leaders
8 from India and the US who are not officials in the
9 government, although there have been a few people who have
10 come and gone from government positions during the time
11 that this dialogue has gone on.

12 But one of the most interesting things about it
13 was that I was invited to join, after this had been going
14 on for more than a year, because there was a recognition
15 in both by the US participants and the Indian that they
16 really needed to include subnationals, as we're called,
17 such as California. And that while national policy and
18 commitment is critical, that there is a lot of opportunity
19 at the subnational level to actually device and carry out
20 programs that are going to have a big impact on the air
21 and on the climate.

22 So this is one area in which California's
23 presence I think is just going to be more in demand than
24 it has been in the past.

25 So with that, I will turn it over to Mr. Corey.

1 I should also note that Edie Chang just got back
2 from Lima where she represented ARB ably at the Conference
3 of Parties. She swears her cold was there before she got
4 there, but I think she paid the price for the trip.

5 Mr. Corey.

6 DEPUTY EXECUTIVE OFFICER COREY: Thank you,
7 Chairman.

8 As you mentioned, ARB has a long history of
9 working with foreign jurisdictions to exchange
10 information, provide technical assistance, and learn from
11 their programs as well. For many years, we've welcomed
12 foreign delegations who have visited ARB to discuss air
13 quality science and research, to learn about our vehicle
14 emission control programs, as well as our climate change
15 policies.

16 In collaborations with China and Mexico, as
17 noted, recently become more formalized, ARB's work on the
18 implementation of the MOUs has increased interaction
19 between ARB and our counterparts in China and Mexico is
20 leading to more specific projects than simply sharing
21 information.

22 I've had the personal opportunity to visit and
23 work with representatives from China as well as
24 representatives from the non-governmental associations
25 that are on the ground there. And it's clear that

1 California's leadership and demonstrated success is having
2 a very real impact on actions in local jurisdictions to
3 address both air quality issues as well as climate change.

4 Margaret Minnick, International Liaison to the
5 Chairman's office, will give the staff presentation.
6 Joining Margaret at the staff table is Aimee Barnes, who
7 is Cal/EPA's Deputy Secretary for Border and
8 Inter-governmental Relations, as well as ARB staff engaged
9 in the international work.

10 And with that, Margaret will give the
11 presentation.

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

14 INTERNATIONAL LIAISON MINNICK: Good morning,
15 Chairman Nichols and members of the Board.

16 As Mr. Corey noted, ARB has a long history of
17 providing technical consultation and support to other
18 jurisdictions that are developing air quality programs.
19 And there has been a strong interest in California's
20 climate programs since its inception in 2006.

21 --o0o--

22 INTERNATIONAL LIAISON MINNICK: Now Governor
23 Brown is positioning California as an example of the
24 successful climate change program that others can emulate
25 and he is showing that working from the bottom up by

1 making subnational agreements can be a successful way to
2 achieve greenhouse gas reductions.

3 California's example demonstrates that action on
4 climate change is consistent with a vibrant growing
5 economy and improves the lives and health of our citizens.
6 This can serve as a powerful impetus for states and
7 countries around the world to take action on climate
8 change.

9 --o0o--

10 INTERNATIONAL LIAISON MINNICK: The Brown
11 administration has signed Memoranda of Understanding, or
12 MOUs, with subnational and national jurisdictions around
13 the world that are interested in partnering with us to
14 address climate change and air pollution.

15 As a result, ARB is building substantive and
16 concrete partnerships with jurisdictions that are
17 developing air quality and greenhouse gas reduction
18 programs. This presentation will provide an update on
19 these activities.

20 --o0o--

21 INTERNATIONAL LIAISON MINNICK: Many foreign
22 jurisdictions seek out California's expertise because of
23 our history of success in addressing air pollution and
24 climate change, but California also benefits from these
25 interactions.

1 We are leveraging AB 32 to grow climate action,
2 but we are also learning from our partners as they try new
3 and innovative strategies to address our common
4 challenges. As they do so, we can learn from them and
5 apply new best practices that may emerge ourselves. And
6 as we heard in the previous presentation by supporting the
7 development of air quality programs in Mexico, we can
8 improve air quality and public health in the border area
9 and Imperial Valley through the reduction of emissions
10 transported from Mexico.

11 Additionally, California's international climate
12 and environment MOUs are often signed in conjunction with
13 MOUs to promote trade to expand markets for California's
14 businesses. Expanding global action to fight air
15 pollution and climate change also expands markets for
16 clean technology, which may bolster business for those
17 companies in California developing clean energy products.
18 And it helps to bring down the cost of these products
19 globally and in California.

20 The Brown Administration opened the
21 California-China Trade and Investment Office in Shanghai
22 in 2013 and has launched an initiative to position
23 California as the go-to state for seeking solutions to
24 China's environmental challenges.

25 Finally, we all know the imperative to pricing

1 carbon and expanding the reach of carbon price signals
2 throughout the world is probably the most important thing
3 we can do to fight climate change.

4 --o0o--

5 INTERNATIONAL LIAISON MINNICK: Agreements among
6 national and subnational governments to collaborate on
7 climate issues such as those that California has entered
8 into reflect cooperation and progress in an area where it
9 has been very difficult to find consensus at the national
10 level. They also serve as a complement to and an example
11 for agreements between nations and for the United Nations
12 climate negotiations which are working towards a new
13 emission reduction agreement in Paris in 2015.

14 --o0o--

15 INTERNATIONAL LIAISON MINNICK: In the effort to
16 support California's international environmental MOUs, ARB
17 works in close collaboration with Cal/EPA, the Governor's
18 office, and other state agencies.

19 For example, California's delegation, including
20 Secretary Rodriguez, Deputy Secretary Aimee Barnes, and
21 ARB's Edie Chang just returned from UNFCCC 20th
22 Conference of the Parties in Lima, Peru, where they spoke
23 at thematic events and engaged in bilateral conversations
24 to share California's experience of success in reducing
25 greenhouse gas emissions using a comprehensive suite of

1 strategies.

2 --o0o--

3 INTERNATIONAL LIAISON MINNICK: Next, I will
4 present further details on our air quality and climate
5 change collaborations. For 45 years, the scientists and
6 engineers at the Air Resources Board have been considered
7 worldwide leaders in air pollution control. ARB's
8 pioneering programs to reduce emissions of toxics and
9 criteria pollutants have set the standard and have
10 informed similar programs in other jurisdictions. As a
11 result, ARB has a long history of engaging in scientific,
12 technical, and policy discussions with other states and
13 counties.

14 For decades, ARB has hosted foreign delegations
15 in Sacramento and El Monte, participated in international
16 conferences, and collaborated with bordering areas in
17 Baja, California on shared air quality challenges.

18 Over the past several years, as a result of the
19 successful implementation of AB 32, governments around the
20 world have come to regard ARB as climate experts.

21 --o0o--

22 INTERNATIONAL LIAISON MINNICK: Often, the
23 initial reason that a foreign jurisdiction seeks to
24 collaborate with us is because poor air quality has
25 developed as their economy has grown due to their citizens

1 using more power, purchasing more goods that are moved by
2 large trucks, and buying more vehicles.

3 One of our partners, China, has been in the news
4 quite a bit during the past few years due to episodes of
5 extremely poor air quality in some of their largest
6 cities, such as Beijing, pictured here.

7 In 2013, California signed MOUs to cooperate on
8 air quality with China's Ministry of Environmental
9 Protection and the Beijing Environmental Protection
10 Bureau, as well as an MOU with the Chinese National
11 Development and Reform Commission, or NDRC, which oversees
12 China's efforts to address climate change and much of the
13 government's economic strategy. ARB supports these MOUs
14 through a continuing series of exchanges of in-depth
15 policy and technical information.

16 On the air pollution side, we are helping the
17 Chinese agencies tackle their top challenges, which
18 include a need to improve monitoring and information
19 gathering regarding the causes of air pollution and
20 insufficient resources and capacity at environmental
21 agencies.

22 ARB, along with Cal/EPA and the local air
23 districts, has been actively engaging with the Beijing
24 Environmental Protection Bureau and the Ministry of
25 Environmental Protection on air pollution mitigation with

1 Governor led a trade and investment mission to Mexico that
2 also included a significant focus on environmental
3 cooperation. While in Mexico City, the Governor signed
4 MOUs with Mexican National Government Ministries for
5 collaboration on climate change, the environment, and
6 clean energy.

7 As a result, ARB's ongoing work with several
8 Mexican states is now moving into a collaboration at the
9 national level. ARB is now participating in workshops
10 with our Mexican counterparts on the topics of climate
11 change, forest management, air quality, and clean
12 vehicles.

13 The Clean Vehicles Work Group is focused on
14 updating smog-forming and greenhouse gas emissions
15 standards for Mexico's light- and heavy-duty vehicle
16 programs, as well as developing improved inspection and
17 maintenance programs, or Smog Check as the California
18 program is called, for Northern Mexico and the state of
19 Mexico.

20 The climate change work group is building on our
21 existing relationship with Mexico, which has also grown in
22 the past year. As the Mexican government implements their
23 national climate change law, they have reached out to
24 California to discuss the design of our climate programs,
25 including cap and trade, and strategies to reduce

1 agricultural greenhouse gas emissions.

2 We have also begun a collaboration with Mexico on
3 short-lived climate pollutants, which we kicked off at a
4 side event at the UN Climate Negotiations in Lima, Perua
5 earlier this month. The MOU also called for greater
6 cooperation on ongoing air quality monitoring in Baja,
7 California, which includes staff training and analytical
8 laboratory services.

9 --o0o--

10 INTERNATIONAL LIAISON MINNICK: India is another
11 rapidly developing country with series air pollution
12 problems where California's expertise and success stories
13 can help mitigate air pollution while promoting economic
14 progress.

15 ARB is collaborating with U.C. San Diego, the
16 Energy and Resources Institute of India, and the World
17 Bank on the India-California Air Pollution Mitigation
18 Program, or ICAMP. ICAMP is an initiative for mitigating
19 air pollution from the transportation sector, including
20 black carbon. The collaboration produced a report which
21 makes twelve specific recommendations for immediate
22 action, including a substantial improvement in India's air
23 quality monitoring network. ICAMP is planning to move
24 forward on all twelve action items, but the initial focus
25 is on improving the air monitoring system by advising the

1 national government and several Indian states.

2 --o0o--

3 INTERNATIONAL LIAISON MINNICK: One of our
4 longstanding partners on climate change is Quebec. As you
5 know, California and Quebec officially linked their Cap
6 and Trade Programs beginning on January 1st, 2014, and the
7 first joint auction of emissions allowances was held on
8 November 25th. California and Quebec's linked Cap and
9 Trade Programs provide a working model for other states
10 and provinces that are seeking cost-effective approaches
11 for enhancing economic growth and innovation, while
12 reducing greenhouse gas emissions.

13 Quebec also has complementary climate change
14 programs that are similar to California's, such as rebates
15 and other incentives for transitioning to zero emission
16 vehicles. Just last week in Lima, California and Quebec
17 signed a Letter of Intent to cooperate in the coming
18 two years to accelerate the deployment of electric drive
19 vehicles.

20 --o0o--

21 INTERNATIONAL LIAISON MINNICK: ARB is also
22 engaged in efforts to preserve forests around the world as
23 Carbon sinks. California helped create the Governor's
24 Climate and Forest Task Force, or GCF, in 2008 as a forum
25 for information and best practices exchange on developing

1 and enacting legal and policy structures to improve forest
2 management.

3 The GCF is currently comprised of 26 subnational
4 jurisdictions, including states and provinces in Brazil,
5 Indonesia, and Mexico, covering more than 20 percent of
6 the world's tropical forests.

7 Some jurisdictions are including or plan to
8 include structures that allow the jurisdiction to issue
9 sector-based offset credits. In 2010, California
10 partnered with two other GCF members, Acre, Brazil, and
11 Chiapas, Mexico, to encourage the development of the Redd
12 offset working group, which developed a set of
13 recommendations on how sector-based offset credits could
14 be included.

15 And this September, California joined dozens of
16 governments, some of the world's largest corporations, and
17 many civil society and indigenous organizations in
18 endorsing the New York Declaration on forests at the UN
19 Climate Summit in New York. This agreement pledges to cut
20 natural forest loss in half by 2020 and strive to end it
21 by 2030.

22 --o0o--

23 INTERNATIONAL LIAISON MINNICK: ARB is also
24 involved in several multi-jurisdictional collaborations.
25 The Pacific Coast Collaborative brings together west coast

1 jurisdictions to take collective action on climate change.

2 On October 28th, 2013, PCC members, California,
3 British Columbia, Oregon, and Washington signed the
4 Pacific Coast Action Plan on climate and energy. The plan
5 seeks to enhance cooperation through a range of
6 activities, including taking steps to expand the use of
7 zero emission vehicles and adopting and maintaining low
8 carbon fuel standards in each jurisdiction.

9 ARB has also participated in meetings of the
10 partnership for market readiness, a multi-lateral World
11 Bank initiative that brings together developed and
12 developing countries to build capacity for climate change
13 mitigation efforts, particularly those using market
14 instruments.

15 In November 2014, ARB became a technical partner
16 of the PMR. At the UN Climate Summit in New York in
17 September, ARB signed onto four agreements under the
18 climate and clean air coalition to reduce short-lived
19 climate pollutants along with national governments, NGOs,
20 private sector companies, and other organizations.

21 The coalition is a group within the UN
22 environment program that is the leading global body
23 focused on SLCPs. The four agreements include pledges to
24 work together to reduce greenhouse gas emissions from oil
25 and gas, hydro fluorocarbons, municipal solid waste, and

1 freight.

2 --o0o--

3 INTERNATIONAL LIAISON MINNICK: As we move
4 forward in these collaborations, California will continue
5 to be a leader on the subnational level and will work to
6 ensure that subnational activity is an element of the
7 paris agreement on climate change. And ARB will continue
8 to actively seek partners to work together in the global
9 effort against climate change.

10 We are also focused on ensuring that California
11 benefits from these interactions. ARB's collaborations
12 with other jurisdiction on zero emission vehicles serve as
13 an example of this. As we work to harmonize regulations
14 with China, Mexico, and others on zero emission vehicles,
15 it will increase the market share of ZEVs, bringing down
16 costs for Californians and enabling more to make the move
17 to zero emission technology.

18 In summary, the Governor's focus on subnational
19 collaborations on climate change and air quality has
20 strengthened and deepened ARB's existing international
21 relationships and forged new ones. These relationships
22 are a critical component of reducing emissions of
23 greenhouse gases and other pollutants worldwide.

24 As the Governor has said, California is pivotal
25 in the great struggle to transform the world economy.

1 What happens here doesn't stay here. It goes all around
2 the country and all around the world. Thank you. We'll
3 take any questions.

4 CHAIRPERSON NICHOLS: Thanks, Margaret.

5 We have no witnesses who signed up on this. I
6 thought it would be useful for the Board to hear this
7 presentation because I suspect that you occasionally at
8 least either get glimpses around the Office of Foreign
9 Delegations who are visiting us or in case of a number of
10 you also get called upon yourselves to participate in some
11 of these activities. And I wanted you to see that there's
12 a really serious effort underway to make these
13 interactions as effective and cost effective and strategic
14 as possible.

15 We know we have a role to play internationally.
16 I think it was probably a year ago in the budget process
17 that we faced a lot of questions about why we were
18 spending any time on activities outside of California.
19 And so since those activities have been increasing, not
20 decreasing, I think it's a good thing for all of us to not
21 only be aware of, but hopefully participate to the extent
22 that it's possible.

23 Yes, Mr. Gioia.

24 BOARD MEMBER GIOIA: Thanks. That was a very
25 useful presentation. In it you made some references to

1 some of the activities and meetings at the climate change
2 conference in Peru. Can you just touch on what you
3 consider to be the highlights that came out of the
4 conference, both from the standpoint of California and
5 generally? It sounds like a few of you went. So if you
6 can touch on that.

7 DEPUTY EXECUTIVE OFFICER CHANG: Why don't I
8 start, and then I'm going to pass it to Aimee Barnes.
9 Aimee was sort of the leader of our delegation there.

10 I think from my perspective I never attended one
11 of the international climate conferences. And I think it
12 was -- it's always -- even though when you're in
13 California and you hear, you see the delegations coming, I
14 think it's pretty amazing to go to this international
15 conference and have so many people want to know what's
16 happening in California. And I think that the
17 significance of the linkage that we have in our Cap and
18 Trade Program with Quebec should not be lost on us here.
19 We are the first jurisdiction to successfully link
20 subnational programs across international borders and
21 we're successfully running that program. I think that's a
22 very significant outcome.

23 I think it's also really important as we go
24 through and look at the climate programs, it's really
25 built on the base line of the programs that we're

1 operating in California for climate and air quality in
2 California. Folks are very, very interested in what we're
3 doing on vehicle technology, particularly on zero emission
4 vehicles as that technology is progressing. So it's very
5 interesting as you sit in California and you're working on
6 sort of the minutia of making sure all of these programs
7 work, the world is really watching. And I think there is
8 a growing movement of subnational jurisdictions that are
9 working together and trying to motivate change from the
10 bottom.

11 CHAIRPERSON NICHOLS: Aimee.

12 MS. BARNES: Sure. Thank you to ARB for the
13 opportunity to be here today.

14 I think Edie's remarks are spot on. So I won't
15 say too much more. But I do think we had a great presence
16 from California in Lima. I think there was clear interest
17 from everybody there, both those who were attending site
18 events as well as the official negotiators, certainly the
19 State department and others in what California is doing.

20 As Edie mentioned, I think there is a growing
21 recognition of the important role that subnationals are
22 playing in building momentum to a global outcome in 2015.
23 I think California's presence in Lima this year was very
24 successful in cementing California's role as the leader
25 amongst subnational leaders on that issue.

1 So I think looking ahead to the year in front of
2 us and the road to Paris, we have a great opportunity to
3 continue to build that leadership role and really define
4 the role that subnationals will play in this post-2015
5 agreement, which is so important to having a global
6 solution to climate change.

7 Just a couple of other sort of things that I
8 think were important achievements. We had a number of
9 bilaterals. It's a great opportunity for Californian's
10 representatives to meet with representatives from other
11 jurisdictions, both with those that we already have
12 existing relationships with. So we had an excellent
13 meeting with our Chinese counterparts, but also with
14 others that we might be looking to build relationships
15 with.

16 As Edie and Margaret mentioned, we made a number
17 of presentations about California's activities at side
18 events. I think those were some of the best -- in some
19 cases the best attended site events that we were at were
20 the ones that were focused on the role of subnationals and
21 subnational leadership. In fact, the New York Times had a
22 piece at the end of last week that I think really did a
23 nice job highlighting both the role of California and the
24 role of other subnationals.

25 And again, I think we did a good job of cementing

1 California's leadership role. Secretary Rodriguez
2 addressed the U.N. last Thursday and was given the
3 opportunity to talk about both California's work and the
4 broader context of subnational action.

5 So personally, I was very pleased with
6 California's participation. I think having ARB there was
7 incredibly important. Edie is able to talk to our
8 partners with a great level of both breadth and depth in
9 the work we're doing. That's invaluable. But I think
10 this will certainly continue to be an area of priority for
11 all of us, including the Governor's office in the year
12 ahead.

13 CHAIRPERSON NICHOLS: Excuse me. I was just
14 going to add one other thing. I see we do have one person
15 who signed up to speak to us on this issue. That is I
16 think I alluded to this before, but the President Pro Tem
17 of our State Senate, Kevin De Leon, also accompanied the
18 delegation. This is the first time I know of that we had
19 a state Legislator as part of one of these missions. He
20 was very much a part of the delegation. I think the fact
21 that he was there shows for us a much greater level of
22 interest and support from the legislative leadership in
23 California's role here on the international scene. And so
24 I think that was another important outcome that wasn't a
25 plan, but as it turned out, was definitely great benefit

1 of having had the group in Lima.

2 So let me call on Louis Blumberg from the Nature
3 Conservancy who's always at these Conferences of Parties
4 and usually to be found organizing meetings around
5 forestry.

6 MR. BLUMBERG: Thank you, Madam Chair. Good
7 morning. I'm Louis Blumberg. I'm Director of the
8 California Climate Change Program for the Nature
9 Conservancy.

10 I'd like to commend the staff for the excellent
11 report. It was quite impressive, especially that map.
12 The breadth of the work that ARB is doing around the world
13 to address climate change and air pollution. And I was in
14 Lima and was very pleased to experience and attend some of
15 the events the California folks participated in.

16 And I would say that as the eighth largest
17 economy in the world and the twelfth largest emitter,
18 California has a responsibility to act globally and is
19 stepping up to that responsibility and exerting the
20 leadership that's really essential. And as both Aimee and
21 Edie had said, there was a lot of interest in California.
22 There always is a lot of interest in what California is
23 doing. And so the actions that you take, that your staff
24 takes there, really get the word out about California's
25 success story. I think that's a message that the world

1 really is heartened by, to learn that this program here is
2 working and has a price on carbon and is a model for the
3 rest of the world. So I just want to commend the staff
4 for the report and the staff that went to Lima.

5 One of the outcomes there is a new database on
6 subnational action that will be used to help drive the
7 role for subnational action in Paris. Every year, the
8 world understands more about the importance of action here
9 in California and in other states.

10 And finally, just to add that we know that by
11 taking additional action on forests, your Board can send a
12 signal to jurisdictions in tropical forest countries that
13 will really generate additional reductions, additional
14 climate benefits that will have way beyond what the
15 initial numbers that you can do here. So we encourage you
16 to continue work down that path as well. Thank you.

17 CHAIRPERSON NICHOLS: Thank you very much.

18 Yes, Dr. Balmes.

19 BOARD MEMBER BALMES: Since there's been all this
20 talk about subnational jurisdiction -- and I may have
21 missed an update because I missed a couple Board meetings
22 in a row there. But have we had an update about our
23 coordination with other states in the U.S. lately?
24 Because I would certainly like to hear whether our
25 leadership in this realm has attracted support from other

1 states, which I think is really important.

2 CHAIRPERSON NICHOLS: We have not. I think it's
3 a good idea. I think we should put that on the schedule
4 for early next year. This is timely because the Pacific
5 Coast Collaborative is meeting even as we speak or has
6 finished a meeting in Skamania. Virgil Welch from my
7 office is there. We also had some very productive
8 conversations with the other states that are the so-called
9 177 states that follow California's vehicle emissions
10 standards and are working with them on a alliance and a
11 set of projects.

12 So let's ask the staff -- Mr. Corey is nodding.
13 So I think he got the message.

14 BOARD MEMBER BALMES: Good plan.

15 CHAIRPERSON NICHOLS: Yes.

16 BOARD MEMBER SPERLING: Thank you.

17 You know, I just want to add a little bit to this
18 idea of our role as subnationals. And it is really
19 important. So I'm involved in a number of these
20 initiatives more through the university side. But these
21 same initiatives.

22 And you know, kind of a simple idea is maybe to
23 use Dr. Balmes' kind of analogy is we're hitting way above
24 our weight in this area. But it really is crucial because
25 being a subnational -- and I've seen this personally is

1 that we actually end up having a lot more effectiveness
2 because of that. A lot of our work with China for
3 instance. There's so much international tension --
4 political tension that they're really leery of getting
5 involved with the White House and DOE and Washington.
6 Whereas, we can go in there and they're very excited about
7 working with us and learning from us and sharing with us.
8 So we tend to have I think a lot more effectiveness
9 because of that, being a subnational. So it's actually an
10 advantage in many cases and in many situations. So we are
11 very influential and I think we're very effective.

12 And to add onto what Margaret Minnick said, there
13 are all kinds of benefits that come back to us. And she
14 did a good job of listing them. I would list another one
15 being that we get all kinds of free help and in-kind help
16 from so many other entities. When we were doing the cap
17 and trade, recall, we had delegations coming from Europe
18 it seemed almost weekly to help us and advise us on
19 putting together our Cap and Trade Program because of
20 their experience in Europe. And that happens over and
21 over again, that kind of free help that we keep getting.

22 Now, you know, we do need to be strategic. We
23 can't do everything with everyone. But we really should
24 be -- we really should be doing it. We do have a big
25 effect that comes back and benefits us. And it also

1 benefits us because they see us as having this incredible
2 scientific expertise, this culture of engagement which
3 helps us in terms of everything we do. But they
4 appreciate it in many ways. We have all this experience.
5 So I'm really excited to be part -- to be a Californian
6 and be part of ARB and having the kind of effectiveness
7 and influence we're having.

8 CHAIRPERSON NICHOLS: Thank you. I would just
9 add when I go abroad and meet with people from either NGOs
10 or government agencies, the numbers of people who have
11 been educated in California that you run across is also
12 pretty remarkable. So another way in which we're having a
13 world-wide effect and the air districts as well.

14 Ms. Mitchell.

15 BOARD MEMBER MITCHELL: Thank you, Madam Chair.

16 I just want to mention that as a member of this
17 Board and a member of a local Air District Board, I often
18 get the question of why is California working on climate
19 change because no one else is. And I think that that --
20 this report from our staff helps us to answer that
21 question. That, in fact, there are a lot of other nations
22 in the world that are interested in what we are doing and
23 listening to us. So for the skeptics of climate change
24 and why we even venture into this area, I think this
25 report is a good answer to that. Thank you, staff, for

1 all the work you do on this.

2 CHAIRPERSON NICHOLS: Excellent point.

3 Supervisor certain a.

4 BOARD MEMBER SERNA: Thank you, Chairman.

5 I want to echo everything my colleagues have
6 mentioned and thank staff, especially Margaret, for an
7 excellent report.

8 I feel a little bit remiss if I didn't ask the
9 question when is the last time we've had or hosted an
10 international conference of our own right here in
11 Sacramento?

12 CHAIRPERSON NICHOLS: We have an excellent
13 Convention Center here in Sacramento.

14 BOARD MEMBER SERNA: We do. I'm making a
15 suggestion that perhaps given the amount of time and
16 energy that our staff apply to certainly attending other
17 international convenings and given the amount of activity
18 we have in terms of individual international delegations
19 that visit quite often, it seems to me we might want to
20 give some thought if we haven't done that to perhaps doing
21 our very own home grown international convening to kind of
22 comprehensively maybe address everything that we're doing.
23 I won't say piecemeal, but you know, frequently and maybe
24 not as centralized to California as we have in the past.

25 CHAIRPERSON NICHOLS: I think I'm hearing an

1 offer of assistance in organizing this.

2 BOARD MEMBER SERNA: Very much so.

3 CHAIRPERSON NICHOLS: Thank you.

4 BOARD MEMBER GIOIA: Some of us believe we get
5 better turn out if we held it in the Bay Area.

6 CHAIRPERSON NICHOLS: I'm not going there. We'll
7 discuss this later. Venue can be discussed.

8 But the concept is one that we have not really
9 been working on, and it is something that we should put
10 into the mix for next year.

11 With that, I think we should move along and deal
12 with our next item, which is a little closer to home,
13 although it does have international implications, as
14 everything does. That is the technology assessment that's
15 part of our work in the direction of sustainable freight
16 strategy -- oh, we have cap and trade next. Sorry.
17 Proposed modifications to the cap and trade regulation.
18 And the right people came to the table, despite my
19 mistake. So good.

20 So the item we're going to be focusing on is a
21 set of proposed modifications to the cap and trade
22 regulation. These amendments come almost four years to
23 the week from when the Board first considered the cap and
24 trade regulation. Since that time, the regulation has
25 been periodically updated and many implementation

1 milestones have come to pass. Staff has been busy not
2 only making refinements to the program, but also
3 implementing the first economy-wide carbon market in the
4 nation. Staff has continued to meet with stakeholders to
5 ensure a continued efficient implementation of the program
6 while we've also been busy sharing the lessons learned
7 with other jurisdictions as well.

8 The successful implementation of this Cap and
9 Trade Program establishes an important mechanism that can
10 continue to reduce greenhouse gas emissions to 2020 and
11 beyond as we work to develop a strategy for midterm
12 targets on the way to our ultimate objective, ultimate as
13 least as far as we're able to imagine of an 80 percent
14 reduction by 2050.

15 Staff's presentation will provide an update on
16 the implementation of this program, including our first
17 joint auction with Quebec, which we just heard.
18 Specifically, the Board will be considering today targeted
19 amendments that will enhance the implementation of the
20 compliance offset program, including the addition of a new
21 offset protocol for rice cultivation and an update to the
22 existing forestry protocol. The proposed amendments
23 before us today represent movement in a positive direction
24 in California's Cap and Trade Program and will ensure that
25 our program continues to create a powerful economic

1 incentive for investment in cleaner, more advanced
2 technologies, while also providing businesses with
3 flexibility to chose the lowest cost approach to reducing
4 emissions.

5 So I think with that, I will ask Mr. Corey to
6 introduce this item.

7 Given all of the controversy that there has been
8 in the last couple of days about various aspects of the
9 protocols, I'm hoping that either you or someone is going
10 to address specifically what is actually going to be acted
11 on today.

12 DEPUTY EXECUTIVE OFFICER COREY: Yes, Chairman.
13 We'll be clear on that. I'll explain briefly the
14 Resolution because the Board will not be voting on the reg
15 item. They'll be returning to the Board.

16 As you mentioned, today, staff will present the
17 Board for consideration a set of proposed amendments to
18 the cap and trade reg. These modifications will clarify
19 implementation of the compliance offset program, address
20 stakeholder concerns, respond to Board direction, and
21 result in an increase in the supply of compliance
22 instruments.

23 This is consistent with previous Board
24 Resolutions that directed staff to consider and propose
25 new compliance offset protocols and periodically review

1 and update existing compliance offset protocols as well.
2 Staff is requesting the Board vote to approve the
3 Resolution directing staff to make additional
4 modifications to the amendments and offset protocols as
5 appropriate and make those changes available for public
6 comment.

7 The Resolution also directs staff to continue to
8 engage with stakeholders and the public about the
9 modifications, evaluate all comments received and prepare
10 written responses, including responses to environmental
11 comments and prepare the final regulation to bring back to
12 the Board with those responses for future hearing for
13 consideration. And that will be a new months into about
14 mid-2015, a few months from now.

15 The amendments proposed today and the additional
16 work to be continued in the proposed 15-day process
17 represents further progress in the implementation of the
18 Cap and Trade Program.

19 Now I'm going to ask Greg Mayeur of our Climate
20 Change Program Evaluation Branch to provide the staff
21 presentation.

22 CHAIRPERSON NICHOLS: Thank you.

23 (Thereupon an overhead presentation was
24 presented as follows.)

25 PROGRAM OPERATION SECTION MANAGER MAYEUR: Thank

1 you, Mr. Corey.

2 Good morning, Chairman Nichols and members of the
3 Board.

4 This presentation will focus on proposed
5 amendments to the California cap on greenhouse gas
6 emissions and market-based compliance mechanisms
7 regulation, otherwise known as the cap and trade
8 regulation.

9 These targeted amendments include the addition of
10 a compliance offset protocol for rice cultivation
11 projects, an update to the compliance offset protocol for
12 U.S. forest projects, and clarification for two
13 definitions related to the implementation of the
14 compliance offsets program.

15 --o0o--

16 PROGRAM OPERATION SECTION MANAGER MAYEUR: For
17 this presentation, I will begin by providing background
18 and updates on the Cap and Trade Program. I will also
19 provide a brief overview of the cap and trade offset
20 program and the focus of these proposed amendments.

21 The presentation also includes an overview of the
22 environmental analysis prepared for the proposed
23 amendments and offset protocols in accordance with the
24 California Environmental Quality Act, or CEQA. And since
25 this item will be brought back to the Board next year for

1 final consideration, I will also discuss the next steps in
2 the rulemaking process and the potential 15-day changes.
3 The final portion of this presentation will present
4 staff's recommendations for Board approval of the proposed
5 Resolution.

6 --o0o--

7 PROGRAM OPERATION SECTION MANAGER MAYEUR: AB 32,
8 the Global Warming Solutions Act of 2006, requires the
9 state to reduce statewide greenhouse gas emission levels
10 to 1990 levels by 2020. AB 32 mandates that ARB develop a
11 Scoping Plan to lay out the path for achieving the
12 reductions necessary to meet the State's 2020 goal.

13 The Cap and Trade Program is a key component of
14 the suite of measures being implemented to achieve our
15 statewide goals. The cap and trade regulation was
16 developed over several years through an extensive
17 consultation process. The Board initially considered the
18 proposed regulation in 2010 and adopted the final
19 regulation order in 2011.

20 Since the initial adoption, the Board approved
21 amendments to the regulation in 2012, 2013, and earlier
22 this year to improve the implementation of the program,
23 add a mine methane capture offset protocol, update
24 existing offset protocols, and adjust allocation to select
25 covered entities. Most of these amendments were in

1 response to Board direction.

2 --o0o--

3 PROGRAM OPERATION SECTION MANAGER MAYEUR: The
4 GHG mandatory reporting program supports the
5 implementation of the Cap and Trade Program, in addition
6 to the cost of implementation fee program. The 2013
7 reported and verified GHG emissions are the first
8 emissions with a compliance obligation under the Cap and
9 Trade Program.

10 In 2013, reported emissions were slightly lower
11 than the 2012 with small increases in the cement,
12 refining, and hydrogen sectors. The electricity sector
13 saw the largest decrease in emissions in 2013. The
14 overall slight decrease in emissions occurred during the
15 same time we saw the state's gross domestic product grow
16 by two percent.

17 As part of the commitments made in the Adaptive
18 Management Plan, staff will be reviewing any
19 facility-specific increases in greenhouse gas emissions to
20 better understand the cause of the increase.

21 --o0o--

22 PROGRAM OPERATION SECTION MANAGER MAYEUR: As
23 stated on the previous slide, greenhouse gas emissions
24 from regulated entities have a compliance obligation under
25 the Cap and Trade Program beginning in 2013.

1 Since we have last presented to the Board in
2 September of this year, the Cap and Trade Program hit two
3 new milestones. The first annual deadline for surrender
4 of compliance instruments equal to 30 percent of 2013
5 emissions with a compliance obligation was this past
6 month. 100 percent of the covered entities met their
7 compliance obligation as required by the regulation.

8 Secondly, after holding eight California-only
9 auctions since the start of the program, the first joint
10 auction with Quebec was successfully held last month on
11 November 25th. Looking forward, the next compliance
12 instrument surrender deadline is November 1st, 2015, when
13 entities will need to surrender compliance instruments
14 equal to the remaining 70 percent of 2013 emissions and
15 100 percent of 2014 emissions.

16 --o0o--

17 PROGRAM OPERATION SECTION MANAGER MAYEUR: The
18 cap and trade regulation includes elements designed to
19 minimize compliance costs without compromising
20 environmental integrity. Offset credits that are
21 generated in accordance with ARB-approved protocols and
22 meet strict monitoring and verification requirements may
23 be used to meet up to eight percent of an entity's
24 compliance obligation each compliance period. Allowing
25 offsets increases the supply of compliance instruments in

1 the market, which reduces the overall costs of the
2 program, making the offset program an integral cost
3 containment mechanism under the Cap and Trade Program.
4 Including offsets in the program also spurs voluntary
5 emission reductions outside the capped sectors and
6 supports the development of innovative technologies.

7 Since offset projects can be developed within the
8 United States, the offset program provides an important
9 incentive mechanism to encourage the spread of these clean
10 low carbon technologies inside and outside California.
11 The reductions achieved by offset projects provide
12 important environmental, social, and economic benefits by
13 reducing greenhouse gas emissions and supplying green jobs
14 inside and outside of California. To date, ARB has issued
15 over 13.5 million compliance offset credits.

16 --o0o--

17 PROGRAM OPERATION SECTION MANAGER MAYEUR:

18 Emissions reductions achieved by offset projects must meet
19 rigorous criteria to be approved as a valid compliance
20 instrument. Offsets must be real, additional, permanent,
21 quantifiable, verifiable, and enforceable. To ensure
22 reductions credited as offsets are real and additional,
23 offset credits cannot be issued for any reductions
24 achieved in capped sectors. This could cause double
25 counting of those reductions within the program.

1 In addition, only ARB can issue compliance offset
2 credits under the approved offset protocols. All
3 California issued offset credits in the program are
4 created and tracked by ARB in its market tracking system
5 called the compliance instrument tracking system service,
6 or CITSS. ARB offsets credits are issued by ARB to
7 projects developed using Board adopted compliance offset
8 protocols. The Board has thus far approved five
9 compliance offset programs listed here.

10 --o0o--

11 PROGRAM OPERATION SECTION MANAGER MAYEUR: Since
12 the Board's initial consideration of the cap and trade
13 regulation in 2010, the Board has issued three Resolutions
14 directing staff to review compliance offset protocols and
15 propose changes as needed. The Board direction is
16 summarized on this slide. The majority of the amendments
17 we will discuss today are a result of Board direction.

18 --o0o--

19 PROGRAM OPERATION SECTION MANAGER MAYEUR: Staff
20 conducted an extensive public process to develop the
21 proposed protocols, including public workshops, working
22 group meetings, and a webinar on updates to the U.S.
23 forest common practice values. Rice protocol workshop and
24 working group topics focused on quantification,
25 environmental impacts, and modeling.

1 U.S. forest protocol workshop topics included
2 updates too common practice values, expansion into Alaska,
3 clarification regarding eligibility of projects, and
4 changes to the quantification methodologies previously
5 approved by the Board.

6 Staff released discussion drafts of each proposed
7 protocol and had two informal public comment periods prior
8 to releasing the 45-day package. Staff's efforts to be
9 transparent included posting supplemental resources and
10 documentation on the official rulemaking web page.

11 --o0o--

12 PROGRAM OPERATION SECTION MANAGER MAYEUR: I will
13 now walk through a summary of the proposed changes to the
14 cap and trade regulation. Staff is proposing the sixth
15 compliance offset protocol for rice cultivation projects
16 and an update to the existing U.S. forest projects
17 protocol. These protocols are incorporated by reference
18 in the proposed amendments and are being considered by the
19 Board as part of this rulemaking package. I will discuss
20 these protocols further in the coming slides.

21 Staff is also proposing modifications to two
22 definitions in the regulation related to offset program
23 implementation. Staff is proposing an amendment to the
24 definition of early action offset project to allow U.S.
25 forest reforestation offset projects that have not been

1 issued early action offset credits to be considered an
2 early action offset project.

3 Staff is also proposing an amendment to the
4 definition of intentional reversal to exclude reversals
5 that occur as a result of backfires intentionally set to
6 protect forest lands from advancing wildfire. Back burn
7 fires must be set by or at the request of a local, state,
8 or federal fire protection agency to be excluded from the
9 definition. These reversals would instead be treated as
10 unintentional reversals.

11 --o0o--

12 PROGRAM OPERATION SECTION MANAGER MAYEUR: As I
13 mentioned, staff is proposing a new compliance offset
14 protocol for rice cultivation projects. This is the first
15 crop-based offset protocol considered by ARB.
16 Conventional rice cultivation practices with flooded rice
17 patties serve ecological function as manmade wetlands but
18 also generate anaerobic conditions that enhanced methane
19 production and emissions. Methane is a potent short-lived
20 climate pollutant. The proposed protocol uses the
21 denitrification decomposition, or DNDC, model to quantify
22 greenhouse gas emission reductions from changes in rice
23 cultivation practices that maintain yields and prevent
24 current associated ecological benefits. Staff estimates
25 that potential greenhouse gas emission reductions range

1 from .5 to 3 million metric tons carbon dioxide equivalent
2 through the year 2020.

3 --o0o--

4 PROGRAM OPERATION SECTION MANAGER MAYEUR: There
5 are six major rice producing states including California,
6 the Gulf Coasts of Louisiana and Texas and the Mississippi
7 Delta, primarily in Arkansas, but also extending into
8 Missouri and Mississippi.

9 Common rice cultivation practices different
10 geographically. As such, it is important to tailor
11 suitable compliance practices based on geographic location
12 and business as usual farming practices.

13 With that in mind, staff identified two
14 compliance practices for the California rice growing
15 region: switching from wet-seeding to dry-seeding and
16 early drainage and preparation for harvest. Staff is also
17 proposing two compliance practices for the mid-south
18 states, cyclical wetting and drying of the rice fields
19 during the growing season and early drainage in
20 preparation for harvest.

21 --o0o--

22 PROGRAM OPERATION SECTION MANAGER MAYEUR: ARB
23 has identified several measures to help implement a rice
24 cultivation project. First, staff is proposing
25 conservative modeling options that greatly reduce the

1 computing time required to calculate emission reductions.

2 Secondly, ARB has contracted with Michigan State
3 University to develop a quantification tool for use by
4 participating farmers that simplifies data input,
5 quantifies emission reductions, and provides recordkeeping
6 capabilities consistent with the protocol requirements.

7 And lastly, ARB is coordinating with the
8 California Department of Food and Agriculture to implement
9 a limited term pilot program to provide funding to cover
10 the cost of verification. This will aid ARB's evaluation
11 of the best methods for alternative less intensive
12 verification of rice cultivation projects that would
13 retain the existing level of rigor in the compliance
14 offset programs verification process.

15 --o0o--

16 PROGRAM OPERATION SECTION MANAGER MAYEUR: The
17 proposed updates to the existing U.S. forest protocol are
18 technical updates that reflect the latest science. The
19 first of these updates is to expand project eligibility to
20 regions of Alaska for which data required for implementing
21 projects is now available from the U.S. Department of
22 Agricultural, Forest Service Forest Inventory and Analysis
23 National Program.

24 Staff is also proposing updates to the common
25 practice values in the assessment area data file used to

1 establish baselines for improved forest management
2 projects on private land also based on updated data from
3 the forest inventory and analysis program.

4 Staff originally proposed the updates to the
5 common practice values as part of the quantification
6 methodology updates considered by the Board in September.
7 Staff removed these updates from that rulemaking package,
8 and per Board Resolution 14-31 is proposing them again as
9 part of this package. The additional time was necessary
10 to ensure stakeholders unfamiliar with the rulemaking
11 process had ample opportunity to review and comment on
12 these proposed technical updates.

13 This version also includes a change to the
14 classification of high and low site class productivity
15 codes to bring them into alignment with the stratification
16 of site classes used in the updated common practice
17 values. Like the updated common practice values, staff is
18 proposing this change for the second time per Board
19 direction. As a result of stakeholder consultation and
20 lessons learned during the last few years of implementing
21 the forest protocol, staff has also included
22 clarifications and modifications to the protocol that
23 relate to project eligibility, greenhouse gas emissions
24 reduction quantification, and requirements for reporting
25 and verification. These changes are detailed further in

1 the staff report that was released in October.

2 Lastly, the protocol was reformatted to closely
3 follow standard regulatory format.

4 --o0o--

5 PROGRAM OPERATION SECTION MANAGER MAYEUR: ARB
6 prepared an environmental analysis, EA, for each of the
7 proposed compliance offset protocols and are included in
8 chapter three of the respective staff reports prepared for
9 each protocol in appendices B and C. The EAs were
10 prepared in accordance with the requirements of ARB's
11 certified regulatory program under CEQA.

12 ARB used the CEQA environmental checklist,
13 Appendix G from the CEQA guidelines to identify and
14 evaluate environmental resource areas that may be
15 impacted. The checklist includes criteria related to
16 resource areas such as biological resources, cultural
17 resources, geological and soil resources, and hazardous
18 materials, among others.

19 ARB conducted a programmatic level environmental
20 analysis which concluded no significant adverse impacts
21 from the new rice cultivation protocol and the same types
22 of impacts from the updated forest protocol that were
23 found when the forestry protocol was first analyzed in
24 2010 as part of the environmental analysis included in the
25 Appendix O for the cap and trade regulation referred to as

1 the functional equivalent document, but with extended
2 geographic scope of those impacts by expanding project
3 eligibility to areas of Alaska.

4 --o0o--

5 PROGRAM OPERATION SECTION MANAGER MAYEUR: Staff
6 plans to hold additional public workshops and/or technical
7 working group meetings for both the rice and forest
8 protocols in 2015. Staff expects to propose additional
9 modifications to the protocols based on stakeholder
10 comments, the full text of which will be made available
11 for a 15-day comment period. Some anticipated items to be
12 incorporated into the 15-day changes for the rice
13 cultivation protocol include finalizing the approach for
14 recognition of early adoption projects and updating to the
15 latest version of the DNDC model.

16 And for the U.S. forest protocol, some of the
17 anticipated changes include the results of an ARB contract
18 with California State PolyTech University San Luis Obispo
19 to develop a revised approach to establishing base lines
20 for improved forest management projects on public lands.
21 Including this approach will increase the likelihood for
22 projects to be implemented on public lands while still
23 ensuring projects meet AB 32 criteria.

24 Staff will also continue to work with
25 stakeholders to refine clarification to the even-aged

1 management requirements.

2 And lastly, staff is waiting on additional data
3 for Alaska related to wood product classes and mill
4 efficiencies.

5 --o0o--

6 PROGRAM OPERATION SECTION MANAGER MAYEUR: In
7 conclusion, staff recommends that the Board approve the
8 Resolution before you. This Resolution directs staff to
9 work with stakeholders to continue to develop and release
10 potential 15-day changes as described in the presentation,
11 to prepare responses to any comments received on the
12 environmental analysis, and to return to the Board next
13 year so that you may consider approval of the CEQA
14 responses and the final rulemaking package.

15 Thank you for your consideration.

16 CHAIRPERSON NICHOLS: Thank you.

17 This is a multi-part proposal, and I've been
18 working with the Clerk to try to organize the witness list
19 in a way that would allow us to focus on one issue at a
20 time, if at all possible. And I realize there may be
21 people who want to talk about more than one thing. But
22 I'm hoping that this will work, if I can divide it into
23 three groups, which would be forestry, rice, and other.
24 Forestry, rice, and everything else. And so if that
25 works, we can start with the, as it happens -- the first

1 witnesses who signed up were all people that I'm pretty
2 sure are primarily focused on forestry.

3 We can start off with a visitor to our state and
4 someone I had an opportunity to meet last night, Sheri
5 Buretta from the Chugach Alaska Corporation. Good
6 morning.

7 MS. BURETTA: Hello. Good morning. Thank you
8 for the opportunity to address the Board this morning and
9 how wonderful it was to wake up to warmth and sunshine
10 from the darkness and cold I woke up to yesterday.

11 And just for everybody's clarification, Alaska is
12 not an island off the coast of California. We are
13 actually connected above Canada.

14 My name is Sheri Buretta. I'm the Chairman of
15 the Board for Chugach Alaska Corporation. My family is
16 from the village of Tatitlek, which is in the Prince
17 William Sound, Valdez Alaska. Our people have lived there
18 for thousands of years. People may be familiar with
19 Tatitlek, as it was three miles from the environmental
20 disaster of the Exxon Valdez oil spill that happened in
21 1989.

22 So I wanted to just address the Board and ask you
23 to consider removing the exclusion of Alaska so we can
24 participate in the forest offset carbon market. So I'm a
25 little bit nervous.

1 Chugach Alaska Corporation was one of the twelve
2 regional organizations formed in the Alaskan Native Claims
3 Settlement Act. And we have 2500 shareholders that are
4 tribal members that were formed in a different way than
5 the reservations of the lower 48. So part of what we
6 received in the Settlement Act was approximately a million
7 acres of surface and sub-surface state that encompasses
8 the land within the Chugach National Forest. And so we
9 have a significant amount of resources that would be
10 eligible to participate in your carbon market. And we're
11 very excited about the opportunity to consider those
12 things.

13 The two largest forests are the Tongass National
14 Forest of southeast Alaska and the Chugach National
15 Forest. And removing the Alaska exclusion will give
16 Chugach and other Alaska native corporations an
17 alternative to timber harvest and will reward sustainable
18 forest manager. Alaska carbon offset projects could
19 generates million of compliance offsets while achieving
20 social, environmental, and economic benefits to our Alaska
21 native populations.

22 And as you may know that the data was not
23 available when the program first started, and now it is.
24 So hopefully we will be able to ask you to consider this
25 and that we would be able to participate. So thank you

1 very much.

2 CHAIRPERSON NICHOLS: Thank you for coming.

3 And yes, I think our exclusion of Alaska had
4 nothing to do with the misunderstanding about where it's
5 located. But it was based on the data availability at the
6 time. And staff have assured me that they are very
7 interested in finding ways to make it possible for there
8 to be forestry projects in Alaska. So thanks for making
9 the trip.

10 I have to say that we met a young man from the
11 tribe who just recently graduated from school and who's
12 working on these projects. And as we were leaving the
13 building last night, I was bundled up in a coat, a scarf.
14 It was cold out there. And this young man was wearing a
15 t-shirt. He told me how warm he felt. It does make you
16 appreciate the differences. So anyway, thank you for
17 making the trip. Appreciate it.

18 Steve Brink from the California Forestry
19 Association. We have it posted so you can see where you
20 are in the lineup here.

21 MR. BRINK: Good morning, Board members and Chair
22 Nichols.

23 I'm Steve Brink, Vice President of Public
24 Resources at the California Forestry Association. We're a
25 trade association of large and small land owners, saw

1 mills, veneer mills, and biomass power plants here in
2 California.

3 I'm here only to discuss the proposed changes to
4 the U.S. forest projects compliance offset protocol.

5 I was also Forest Service Deputy Regional
6 Forester in Alaska from 2001 to 2005. So I'm very
7 familiar with the Chugach Corporation, Sea Alaska
8 Corporation, and other entities including the village
9 corporations in Alaska who are very interested in Alaska
10 becoming part of the offsets program. And of course, I
11 also know many forest land owners across the country
12 interested in the offsets program.

13 Our association opposes the proposed compliance
14 language in the protocol regarding buffer width and buffer
15 retention for land owners that practice even age
16 management. The language as written is substantially more
17 restrictive than the implementing regulations of the
18 California Forest Practices Act. Gary Rynearson, Ed
19 Murphy and I met with the forest offset staff yesterday
20 afternoon, Rajinder, Greg, Barb, Jessica and counsel. And
21 we now understand the intent apparently was not to require
22 anything other than the implementing regulations of the
23 California Forest Practices Act. I believe that following
24 the meeting yesterday the offset staff and we came away
25 thinking a comprehensive frequently asked questions

1 document that would accompany the existing protocol would
2 be a much better approach than trying to synthesize or
3 simplify what the complicated California Forest Practices
4 Act and its rules mean to land owners across the lower 48
5 and Alaska.

6 And because obviously you all know once it gets
7 in rule language, you know, it can become a mess in a
8 hurry. So we really think frequently asked questions
9 document will work very well. In fact, we had five
10 members as part of the Climate Action Reserve Forest
11 Protocol Work Group which lead to the CAR Version 3.2. We
12 would be more than happy to engage with the offset staff
13 in writing that comprehensive frequently asked questions
14 documents. We're sure other work group members from the
15 CAR effort would be willing to help as well. And I'm sure
16 CalFire and the Board of Forestry also would engage.

17 So in conclusion, we believe the proposed buffer
18 language in the protocol should be removed. It would just
19 be a complicating factor that would frankly we think the
20 consequence would be nobody could register as it's
21 currently written. And instead, starting in January, we
22 develop a comprehensive frequently asked questions
23 document to accompany the existing protocol.

24 CHAIRPERSON NICHOLS: Perfect. That's it. Thank
25 you.

1 Roger Williams.

2 MR. WILLIAMS: Hi, everybody. I'm Roger Williams
3 and I'm President of Blue Source. We've been a carbon
4 market leader for the past 14 years and are the largest
5 contributor of forest offsets to the ARB program, having
6 registered 44 percent of total forest carbon credits
7 issued to date.

8 We would like to acknowledge ARB staff for the
9 considerable time and effort that's invested in this
10 process. We broadly support the proposed regulatory
11 review updates with a few important exceptions. As was
12 emphasized in nearly 30 public comments prior to this
13 meeting, the new 50 square foot minimum basal area
14 retention limit is excessive and goes well beyond the
15 requirements of the California Forest Practices Act. If
16 adopted, this harvest constraint would require a drastic
17 modification to the sustainable yield plan of almost any
18 even-aged forest in California wishing to participate in
19 the program and would likely preclude the participation of
20 hardwood forests throughout the Eastern Lake states as
21 well.

22 The new proposed buffer system further constrains
23 sound forest management in that 40-acre area harvested to
24 a basal area below 50 square feet would require a buffer
25 nearly nine times the size of the harvest. These

1 excessive buffers go far beyond prescriptions recommended
2 by forest certification bodies by FSC and FSI. Our
3 proposed solution is to maintain the existing protocol
4 language. As was pointed out in the California Forestry
5 Association's comment letter, the existing language was
6 carefully developed over a five-year period by diverse
7 group of expert stakeholders and should not be abandoned.

8 Our second area of concern is the modified method
9 for establishing minimum base line levels for IFN
10 projects. The new method proposed unjustifiably penalizes
11 projects established on select highly stocked areas of
12 larger forest ownerships. This runs counter to the
13 program's climate goals as it disincentivizes land owners
14 from pursuing forest projects or their most highly stocked
15 and likely to be harvested acres.

16 In addition, for reasons outlined in detail in
17 our and 14 other written public comments, this rule change
18 will be impracticable for implementation, highly costly,
19 and extremely difficult to verify. Our proposed solution
20 is to maintain the existing protocols method of
21 establishing minimum base line levels which already
22 requires sustainable long-term harvest practices to be
23 maintained on all land holdings controlled by a forest
24 land owner.

25 Our third area of concern relates to the common

1 practice values update which has come up a lot in recent
2 months. It's currently based exclusively on FIA data
3 collected over a very brief window of time, 2006 to 2012,
4 largely in the midst and wake of the recession when
5 housing starts and associated timber demand were at
6 historic lows. The effect of capturing common practice
7 values during this time period constitutes an
8 unrepresentative collection of high stocking levels for
9 assessment areas across the country.

10 Just real briefly, our proposed solution would be
11 to modify this over an extended time period, such as 25
12 years, the same length of time as a project crediting
13 period, which takes into account timber market
14 fluctuations and avoids disincentivizing projects during
15 time when the motivation to harvest is the highest.

16 Thank you for letting me go a couple seconds
17 over. Appreciate it.

18 CHAIRPERSON NICHOLS: I'm going to be a little
19 bit more rigorous now since we've got such a long list of
20 people who want to testify.

21 Mr. Strauss.

22 MR. STRAUSS: Hi. My name is Josh Strauss. I'm
23 the Director of Forest Projects for Blue Source.

24 But today I'm here to speak on behalf of the
25 International Emissions Trading Association, IETA.

1 IETA, a multi-sector group of over 140 businesses
2 across California and globally is increasingly concerned
3 about program and market impacts linked to ambiguous and
4 inconsistent compliance language in the regulation and
5 offset protocols. IETA fully supports ARB's effort to
6 ensure that offsets are generated in full compliance with
7 relevant regulations.

8 The recent clean harbors ODS investigation and
9 determination brought to light a lack of clarity regarding
10 several aspects of whether or not California offset
11 projects sufficiently meet regulatory compliance
12 requirements under California's regulation. This
13 uncertainty makes it extremely difficult for market
14 participants to establish the probability and magnitude of
15 risks related to compliance with laws requirements.

16 If offsets are to continue to play an important
17 cost containment role in California's program, it is
18 critical that more specific language and clear boundaries
19 on offset project activities and violation time lines be
20 provided.

21 IETA has made the following specific suggestions
22 on how to clarify the applicability regulation language to
23 enable investments in the projects needed to make
24 California's program a success. First, IETA recommends
25 that the regulation and revised protocols clarify that

1 only activities in the offset project area designated to
2 increase removals of greenhouse gas emissions from the
3 atmosphere or reduce/prevent emissions could potentially
4 lead to an in validation.

5 Second, it remains unclear what exactly the
6 constitutes a violation. IETA believes it is extremely
7 important to ensure that violations unrelated to actual
8 offset project activities are not grounds for
9 invalidation. Protocol language should therefore clarify
10 only fully adjudicated violations which directly effect a
11 number of credits issued from a project can result in
12 potential invalidation.

13 Finally, IETA asked the ARB to provide
14 clarification specifying that only credits arising during
15 the period of an actual violation could potentially be
16 subjected to invalidation rather than all credits arising
17 during an entire reporting period.

18 Thank you for your time today and for this
19 opportunity to comment.

20 CHAIRPERSON NICHOLS: Thank you.

21 Ed Murphy.

22 MR. MURPHY: Good morning, Chairperson and
23 members of the Board. My name is Edward Murphy. I'm a
24 forester for Sierra Pacific Industries.

25 One of the things that I wanted to clarify and I

1 think it would be useful for you in your Board capacity to
2 make sure and note in your Resolution that you're going to
3 pass here says that it is really not your intention to try
4 to do the Board of Forestry or the Department of Fish and
5 Game or the Fish and Game Commission's job. And that
6 while we did work for five years -- I was a member of the
7 stakeholder work group, we did work for five years to
8 bring forward the rules that you currently have. Twice in
9 this process, once with CAR and once with this Board, we
10 had to actually ask for them back to fix what got changed
11 in the process of trying to take the complicated language
12 and move it forward.

13 And I would recommend that you add a note there
14 that it is not your intention to increase the forest
15 practice rules of the state of California via carbon
16 projects. And so that would really help to stabilize the
17 issue that we ran into. I mean, we're sitting here and we
18 have three -- or five projects actually in the hopper
19 working towards offset generation. And within the time
20 frame of submission to verification, we see a shuttering
21 of the rule system that we're supposed to be working
22 under. We're trying to make a promise to the people of
23 the state and to the Air Board of a 100-year commitment to
24 a certain level of carbon retention on the property or in
25 fact increasing carbon on the property. And we have a

1 rule that changes the game rather dramatically.

2 And I don't believe it was intentionally done
3 that way. I think it's that there is in addition to the
4 many years of the stakeholder work group, there is a 35
5 year history of rulemaking in forestry in this state of
6 California already. And that they are complicated and
7 difficult.

8 So just in the context of approaching this rather
9 than trying to make the protocol a carbon copy of the
10 Forest Practices Act, it would be much better to do a
11 frequently asked question guidance document for land
12 owners who haven't had the joyful experience of working
13 under the California Forest Practices Act for the last 30
14 years as well.

15 So I've just -- to me, that's a really important
16 piece. And I think it was portrayed to us yesterday in
17 the staff meeting. But it would be useful for the Board
18 to actually add that to the Resolution so it was clear
19 that the intent of the Board is to harmonize the protocol
20 with the other state Commissions and Boards already
21 existing regulations. That would help give us a lot more
22 stability. I think from our perspective as a family-owned
23 company, 100-year commitment its something we're willing
24 to make. But it is scary this short into the process to
25 find a rule change as dramatic as that. Thank you for

1 your time.

2 CHAIRPERSON NICHOLS: Thank you.

3 Alex Leumer.

4 MS. LEUMER: Good morning, Madam Chair and
5 members of the Board. I'm Alex Leumer, Climate Change
6 Policy Associate with the Nature Conservancy.

7 I'll be commenting on both the forest and rice
8 protocols to save time.

9 In regards to the proposed amendments to the
10 forest protocol, there number of clarifications and
11 changes that the Nature Conservancy supports, including
12 adjustment to common practice values and the inclusion of
13 Alaska. We will note changes on even-aged management need
14 more discussion. As currently written, it will have
15 unintended consequences for good management, FSC
16 certification and practices in deciduous forests on the
17 east coast. We're happy to hear there will be additional
18 workshops and we recommend a workshop to discuss the issue
19 further.

20 The Nature Conservancy supports the rice
21 cultivation project compliance offset protocol and
22 recommends its approval. TNC shares ARB's goals of
23 designing offset practices which avoid negative
24 environmental impacts, and we commend ARB's significant
25 investment of staff time and stakeholder engagement to

1 ensure that this protocol does not materially effect
2 migratory birds and other wildlife.

3 The current version of the protocol includes
4 numerous requirements which reflect safeguards against
5 negative impacts and migratory birds. The rice growing
6 regions included in the protocol provide critical habitat
7 for migratory birds along north America's two largest fly
8 ways. It's essential that habitat it not effected by the
9 practices proposed in the protocol.

10 We commend the excellent work of ARB staff as
11 they developed this offset protocol and appreciate the
12 opportunity to provide our support. Thank you.

13 CHAIRPERSON NICHOLS: Thank you.

14 Gary Rynearson and then Sean Carney.

15 MR. RYNEARSON: Good morning, Chair Nichols and
16 members of ARB. My name is Gary Rynearson. I'm a
17 registered professional forester with Green Diamond
18 Resource Company. And I'm also a former member of the
19 California State Board of Forestry and Fire Protection, as
20 well as a member of the Committee that put together the
21 original CCAR forestry protocols, which are substantially
22 the same protocols that you adopted for the U.S. forest
23 projects.

24 First of all, I'd like to say I'm fully
25 supportive of including Alaska. I've done a substantial

1 amount of work in Alaska. I've worked for the Sea Alaska
2 Corporations and believe this provides a great deal of
3 opportunity for forest land owners in Alaska, especially
4 the native and village corporations.

5 However, I'm very concerned about the proposed
6 changes to the even-age management standards, which would
7 create a buffer that is inconsistent with the California
8 Forest Practice Act and the enabling rules. This is
9 substantially larger buffer and a substantially longer
10 term buffer.

11 In comparison, the Forest Practice Acts requires
12 a buffer of three to five years post-harvest of an
13 even-aged unit. Our average age units for Green Diamond
14 range from about 22 acres is the average. However, our
15 opening size because of all the buffers is only about 15
16 acres. To demonstrate what this would do, a 20-acre unit
17 would have a 106 acres of buffer, which you could not
18 enter for 15 to 25 years. That is a substantial impact to
19 the forest land owners and will have a chilling effect on
20 participation of even-age managers.

21 This isn't -- when we think about this, I know we
22 go immediately to clear cuts. This effects seed tree,
23 shelter wood system, as well as sanitation, salvation,
24 rehabilitation type harvests and the variable retention
25 harvests that are commonly used on the coast also.

1 I request that the Board delay any action on
2 this. And we're very supportive have working with staff
3 to develop the frequently asked questions, keeping in mind
4 these protocols were developed by Californians mostly for
5 California. And now, we're essentially exporting them to
6 other parts of the state and sometimes outside or other
7 parts of the nation and outside of the nation. And I
8 think it is important to have a series of frequently asked
9 questions and some kind of a process that allows them to
10 understand what the natural forest management goals and
11 the standards of our forest practices are within these
12 protocols.

13 Thank you. We look forward to working with you
14 and staff to answer some of these questions.

15 CHAIRPERSON NICHOLS: Thank you.

16 Sean Carney.

17 MR. CARNEY: My name is Sean Carney. I'm
18 President of Finite Carbon.

19 Finite carbon exclusively develops forest carbon
20 offset projects for the California Cap and Trade Program.
21 We are currently developing one-fourth of all improved
22 forest management projects within the program.

23 We have submitted written comments on several
24 specific issues, which we have identified in the proposed
25 updated language for the protocol. As you may have

1 noticed, a few of these changes may have garnered a strong
2 response from stakeholders.

3 One thing I'll note is that 14 of our 15 projects
4 are outside of the state of California. The level, the
5 threshold we're already asking them to come to is
6 significantly higher than what are already in place in
7 other states. So that's one thing about the good impact
8 the protocols are having outside of the state.

9 I would like to take this time to commend the Air
10 Resources Board for its published intention to more
11 actively seek feedback from the stakeholder community as
12 the current proposed language is reviewed and modified.
13 ARB's forest staff is challenged with managing a very
14 complicated protocol and to date has done an extraordinary
15 job given the volume and difficulty of work they must
16 perform.

17 However, as demonstrated by the backlog of early
18 action projects awaiting approval and the unfilled
19 positions posted for new hires, ARB's forest division has
20 staffing workload challenges. ARB's intention to host
21 technical workshops to discuss the proposed changes and
22 seek wider stakeholder input during the development of new
23 policy will promote more efficient use of staff resources.

24 ARB is a wide network of participants, including
25 public, private, and nonprofit groups which we encourage

1 it to draw on earlier in the process as it considers
2 future changes. Thank you for your time.

3 CHAIRPERSON NICHOLS: Thank you.

4 John Nickerson. And then Brian Shillinglaw. Mr.
5 Nickerson here?

6 Mr. Shillinglaw, do you want to come up?

7 MR. SHILLINGLAW: Thank you for the opportunity
8 to comment.

9 My name is Brian Shillinglaw. I'm Associate
10 Director New Forests. And we manage slightly over two
11 billion in capital for sustainable forestry and
12 environmental market investment internationally.

13 We located an office in San Francisco in 2008
14 specifically because of the adoption of AB 32. And
15 through multiple investment funds, we're currently
16 financing and developing over 120,000 acres of projects
17 for this system, including the first project registered
18 under the compliance forest offset protocol, the Yurok
19 Tribes forest carbon partners, improved forest management,
20 a project which was recently featured in the L.A. Times
21 and also the Round Valley Indian Tribes project, which is
22 currently under review by ARB.

23 First, we want to thank ARB staff for their
24 efforts in the forestry protocol and the Board for
25 adopting land use offset protocols. The forestry protocol

1 has and will continue to have a significant impact on
2 forest land use nationally. And many of the proposed
3 updates to the forestry protocol will improve and clarify
4 the protocol.

5 We would like to make a few brief comments
6 related to the forest protocol.

7 First, the updates to the common practice values
8 are, in our view, technically accurate and related to
9 forest service science. And we urge adoption without
10 further delay.

11 Second, we look forward to continued dialogue
12 with ARB staff on issues related to base line revision and
13 even aged management, which have been mentioned by other
14 commentors, with the goal of making sure that there are
15 strong rules and sustainable forest management without
16 making the protocol more stringent than the California
17 forest practice rules, which we view as a benchmark of
18 sustainable forestry nationally.

19 Third, I'd like to few words about offset and
20 validation. New forest supports the offsets and
21 validation rules. It is the right policy to foster
22 detailed due diligence of the offset supply chain.
23 However, at present, the invalidation rules are too
24 non-specific to enable market participants, including
25 verifiers, to adequately diligence invalidation risk.

1 And we urge ARB staff to issue detailed guidance
2 an invalidation related to the forest protocol that first
3 specifies that only environmental health and safety
4 violations that effect the actual forest carbon stocks can
5 trigger violations, not an OSHA violation of a logger not
6 wearing a hard hat or a culvert that's not up to Water
7 Board regulations.

8 Also to clarify what constitutes an environmental
9 health and safety violation. Excluding regulatory
10 corrective action letters and specifying an actual civil
11 judgment or criminal conviction or submission of wrong
12 doing such that people can understand what to diligence in
13 evaluating this risk.

14 And so thank you for the opportunity to comment.
15 I'll keep my comments brief and wanted to cover those
16 three points.

17 CHAIRPERSON NICHOLS: Thank you. Very well done.

18 We omitted Mr. Nickerson. It looked like he was
19 moving forward. Was it somebody else who was getting
20 ready? In not, maybe he just isn't here.

21 Christie Pollet-Young and Alex Rau.

22 MS. POLLET-YOUNG: Hello. My name is Christie
23 Pollet-Young. I'm the Director of Greenhouse Gas
24 Verification Services with SCS Global Services. We have
25 so far verified 75 percent of the forest compliance

1 projects and are currently undergoing the verification
2 about half a dozen others.

3 We thank the Air Resources Board and their staff
4 for their continued commitment to the cap and trade
5 regulation and more importantly to working with us. We
6 have found that we have developed a very good relationship
7 working with them and we hope to continue to do so. In
8 addition, we have found that it's been very helpful to
9 work closely with offset project registry staff.

10 One thing we would like to encourage is continued
11 collaboration and communication in hopes that we can
12 provide continued service and continued integrity to the
13 application of the regulation and protocols.

14 One thing that we would like to request is
15 guidance documents or any sorts of FAQs that could help us
16 provide written guidance to the projects we are verifying,
17 their program staff, but also to provide consistency to
18 the work that we are doing.

19 In addition, we would like you to look at our
20 comments that we have provided and please feel free to
21 reach out to us if you have any questions about
22 verification.

23 One thing is that we know that we work for you
24 guys. We are a third party body, but we know we're
25 supporting the regulation, the protocols, and your law.

1 So we want to work closely with you on that, and we would
2 like to speak to you about verification. It's a
3 competitive environment. We want to do things efficiently
4 and cost effectively, but we understand we need to work
5 with the rules. We've seen a couple of proposed changes
6 that might be a little bit difficult for us to maintain
7 our place in the marketplace to be competitive. We'd like
8 to work with you on that. But ultimately know that our
9 job is to support the integrity of the system so we'd like
10 to work with you.

11 One other thing is we would like more
12 clarification about invalidation. That's one of the big
13 bulks of what we do. And our concern is how much should
14 we do and what is sufficient. So one thing we'd like to
15 work with you is find guidance about the health and safety
16 laws and what we need to be doing to ensure that we are
17 doing our job competently and to your satisfaction.

18 I thank you for your time. And I look forward to
19 continue working closely with you. And best wishes with
20 everything.

21 CHAIRPERSON NICHOLS: Thanks. Thanks for the
22 very comprehensive comments that you submitted in writing
23 as well.

24 Alex Rau.

25 MR. RAU: Good morning, Chairman Nichols and

1 members of the Board.

2 My name is Alex Rau. I'm a partner at Climate
3 Wedge, LLC. And it's my pleasure to offer comments today
4 in support of the proposed rice cultivation offset
5 protocol.

6 By way of background, my firm is an investor in
7 the carbon markets and clean energy sectors. We've been
8 active here in the California carbon market in particular
9 in connection with the development of the rice offset
10 protocol being part of the technical working group.

11 Climate Wedge very much wants to see a successful
12 rice cultivation rice offset protocol that can be viewed
13 as a model for the future protocols that we hope will
14 follow.

15 Our comments today come from the perspective of a
16 potential investor in projects that would be generated
17 under this protocol. We share a desire with the other
18 proponents to see this protocol become adopted, but more
19 importantly, really to be written in a way that will be
20 successful in attracting investment and equally important
21 in a widespread uptake across rice country.

22 So wanted to commend the Board and ARB staff for
23 continuing to demonstrate leadership on the issue of
24 climate change. Your work is vitally important, and we
25 support ARB's efforts to adopt a world leading offset

1 protocol. We stand in support of that protocol, but we do
2 have a concern about the current form that we've addressed
3 with staff and we want to bring to your attention. Our
4 concern is that the current protocol as drafted does not
5 include post-harvest rice straw removal, also known as
6 bailing as an eligible project activity. From an
7 investor's perspective, we're concerned without the
8 inclusion of bailing, it's very difficult to see how this
9 protocol will achieve any real or meaningful scale of
10 greenhouse gas emissions reduction. Certainly not in
11 terms of what would be commensurate with the state's goals
12 under AB 32.

13 As you're well aware, the primary cause of
14 greenhouse gas emissions from the rice sector is from the
15 rice straw that is broken down under anaerobic conditions
16 when the straw is left on the fields typically after
17 harvest, and those fields are flooded for the purpose of
18 degrading that rice straw, a purpose that generates large
19 amounts of methane emissions. And methane is a potent
20 greenhouse gas emissions.

21 It's only logical that one of the most effective
22 ways to reduce the methane emissions from the rice
23 cultivation sector is to proactively remove the straw from
24 the fields prior to flooding so there is less organic
25 material to break down in first place under anaerobic

1 conditions. In our view, including bailing would not only
2 materially improve the protocol's effectiveness in
3 reducing greenhouse gas emissions, it would allow for
4 significantly less water consumption in the sector.

5 We believe that bailing could be readily included
6 into the protocol without causing a significant impact on
7 the water fowl that rely on winter flooded fields for
8 migratory habitats. We are submitting today a more
9 detailed ecological and environmental analysis that has
10 been previously shared with ARB staff. And we understand
11 the time and considerations limited their ability to fully
12 evaluate these recommendations.

13 So the bottom line is that we believe that
14 bailing should be included as an eligible project
15 activity. It's good for maximizing emission reductions.
16 We have a specific request that the Board direct staff to
17 reconsider including bailing in the coming months as a
18 proposed eligible activity. Thank you very much for your
19 time.

20 CHAIRPERSON NICHOLS: Thank you.

21 Robert Parkhurst.

22 MR. PARKHURST: Good morning. Thank you for the
23 opportunity to speak with you today.

24 I'm Robert Parkhurst, Director of Agriculture
25 Greenhouse Gas markets at the Environmental Defense Fund.

1 As I came in this morning, I looked out over the
2 rice fields and reflected on the precedential nature of
3 this meeting. As staff had noted, today you're
4 considering the first land-based or crop-based offset
5 protocol to be included in California's Cap and Trade
6 Program. This protocol reduces the generation of methane,
7 a short-lived climate pollutant, something which I know is
8 of keen interest to the Board.

9 As a result of this rulemaking, almost two dozen
10 growers have stepped up and are starting to process of
11 creating and generating projects and verifying projects.
12 This spring, we expect to see the first credits generated
13 by project in California with more than 6700 tons. ARB
14 staff, particularly Greg Mayeur and Yachun Chow have
15 worked tirelessly to develop this protocol. As I stated,
16 there's been two workshops, four technical working groups,
17 and they vetted all of the potential growing practices to
18 reduce emissions and the impacts of these practices.

19 What you have before you today represents the
20 best available science. It maximizes both greenhouse gas
21 reductions and water bird habitat. What is significant
22 about this protocol is it allows multiple growers to
23 report their information in a single group. This is
24 critical, as GHG reductions on a land basis are small and
25 on a per acre basis.

1 The ability to consolidate their data collection
2 and recording reduces their paperwork and administrative
3 costs. In addition to the protocol, the staff report
4 includes a proposed pilot verification program whereby
5 project implemented in the near future will be able to
6 conduct two verifications. One is set forth in the
7 current regulations, and the second which would identify
8 an alternative and more cost effective verification
9 project.

10 EDF supports this proposal as verification is
11 approximately 50 percent of the cost of developing
12 agriculture projects. Identifying these cost effective
13 verification processes are critical to the success of
14 growers participating in the Cap and Trade Program.

15 I encourage the Board to direct staff to review
16 the written and oral comments and bring this proposal back
17 before the Board before the growing season starts this
18 spring. In addition, I would encourage the Board to
19 direct staff to develop an offset protocol on nutrient
20 management. We have learned through the development of
21 the rice protocol can be leveraged to the development of a
22 nutrient management protocol, and this protocol can
23 generate significant near-term reductions.

24 In closing, I'd like to thank Paul Buttner of the
25 California Rice Commission for their collaboration on this

1 project as well as grant funding from the Natural Resource
2 Conservation Service for our ability to do work in this
3 area. Thank you very much.

4 CHAIRPERSON NICHOLS: Thank you, Mr. Parkhurst.

5 I think it's fair to say that we would never have
6 made it to this day without EDF's help and support. Thank
7 you for all of that.

8 Mr. Buttner and then Mr. Gunasekara.

9 MR. BUTTNER: Thank you. Good morning, Chairman
10 Nichols and members of the Board. It's a pleasure to be
11 here to talk about -- offer the grower perspective on this
12 issue. I'm manager of Environmental Affairs for the
13 California Rice Commission.

14 First and foremost, I want to let you know we do
15 support this proposal before you today. It does have its
16 challenges, but so does just about every other program
17 that we introduce initially. So I think it's important
18 that we really move forward, we get this project started,
19 and promote it as heavily as we can within the rice
20 environment.

21 The California Rice Commission has a strong
22 history of addressing environmental regulatory issues head
23 on, and this was no exception. Shortly after AB 32 was
24 passed, we looked hard at how we could become a part of
25 the solution for climate change in California. Therefore,

1 it was about six or seven years ago we joined forces with
2 the Environmental Defense Fund. And as Robert mentioned,
3 two USDA grants have helped us learn a lot more about the
4 situation, our emissions, the potential for reductions, as
5 well as developing very significant technical tools that
6 we believe can be transferred to other agricultural
7 sectors.

8 We've heard a lot about the habitat of rice
9 fields and it's certainly something that the Rice
10 Commission holds dear. I joke around that really we
11 should be called the California Rice and Water Bird
12 Commission. We do provide half a million acres of
13 surrogate wetland habitat in the Central Valley here in a
14 state where 95 percent of our original wetlands are gone.
15 So these rice fields are now very essential. Sixty
16 percent of everything a duck eats comes out of rice
17 fields. If they weren't there, there would be 2.5 million
18 fewer ducks in the Sacramento valley. We have modeling
19 for waterfowl to make those statements, but we can also
20 make very similar statements about shore birds, wading
21 birds, raptors, all the 230 species that rely on our rice
22 fields. Now our winter flooding program is very critical
23 for that habitat, and it does have methane emissions
24 associated with it.

25 The challenge that I see mostly with this

1 protocol is one of economics. The potential revenue per
2 acre is quite modest, as we all know. Certainly, less
3 than one percent of a grower's cost of production to do
4 his primary business, which is to produce and sell rice.
5 So for a grower to view this as significant, we're really
6 going to have to make the program as efficient as possible
7 in terms of its implementation and addressing
8 administrative costs.

9 My letter to you is in the file. It does propose
10 essentially four areas where I'm hopeful further progress
11 can be made. I want to acknowledge Greg and his team for
12 making progress in that area already. However, I'd like
13 to use the next few months to seek if we can make some
14 additional incremental progress towards simplifying the
15 complexity of the modeling and the verification, as well
16 as looking at the consolidated reporting for these
17 projects.

18 CHAIRPERSON NICHOLS: Thank you. We have
19 received your comments and appreciate them. Thank you.

20 MR. GUNASEKARA: Good morning, Chairman Nichols
21 and members of the Board. My name is Ami Gunasekara, I'm
22 advisor to Secretary Ross. For the record, I'm not the
23 Secretary of Food and Ag. Thank you for this opportunity.

24 CHAIRPERSON NICHOLS: I thought something had
25 happened.

1 MR. GUNASEKARA: No. No. I'm just representing.

2 So thank you for the opportunity to make a few
3 comments on behalf of Secretary Ross and the Department.

4 Back in May 2013, I sat with one of your staff,
5 Edie Chang, on a joint legislative hearing of the Assembly
6 Select Committee on Sustainable and Organic Agriculture
7 the Assembly Select Committee on Agriculture and the
8 Environment. We talked about climate change and ag
9 issues.

10 And at that meeting, I recall stating that we had
11 just begun the discussion on this rice ag offset protocol
12 and it was not without its challenges. Those challenges
13 included establishing implementation reporting and
14 verification procedures that do not jeopardize the
15 credibility of the Cap and Trade Program as State agencies
16 and those who are working at the ground level to reduce
17 greenhouse gases.

18 A new protocol proposed to the Board must be
19 real, quantifiable and enforceable metrics, while at the
20 same time not compromising yields for food production. As
21 you know, agriculture is a dynamic system that requires
22 much flexibility when developing while entering incentive
23 programs. There was a lot of attention given to
24 establishing the science behind this protocol, and I'm
25 highly biased when I say this as Science Advisor to

1 Secretary Ross, it's always a good thing to have the
2 science guide the development of this and similar
3 incentive programs.

4 A little over one and a half years later after
5 intensive and productive collaborations with your staff
6 and stakeholders, the major challenges of the rice ag
7 offset protocol have been addressed. The result is the
8 first crop-based ag offset protocol for your consideration
9 today as a staff proposal.

10 I want to talk a little bit about the fact that
11 recently we established the concept of ecosystems services
12 and agriculture to highlight and explain to a wide
13 audience the many benefits afforded by farmers and
14 ranchers this California. The Environmental Farming Acts
15 Advisory Panel, which I'm liaison to in the department
16 defined the ecosystem services and agriculture as, "The
17 multiple benefits we gain from farming and ranching,
18 including crop and livestock production. In addition to
19 valuable open space and wildlife habitat, the management
20 decisions and conservation practices of farmers and
21 ranchers also enhance environmental quality."

22 These benefits in producing safe high quality
23 food products while addressing air quality, including
24 reducing greenhouse gases. We know this ag offset
25 protocol will be well received by the early innovators in

1 rice production in this region. The same innovators are
2 the ones that led the charge to make rice fields available
3 for habitat for many birds that migrate to this region.

4 As you know, the cost of verifications for
5 project management for offset protocol can be expensive
6 and costly, which in turn might not provide an adequate
7 incentive to growers. We have discussed using different
8 technologies to enhance this protocol. For example, we've
9 talked about collecting images, and we have smart phones
10 and verified using satellite information.

11 CHAIRPERSON NICHOLS: Mr. Gunasekara, we perhaps
12 should have invited you to sit with the staff because you
13 represent another agency. But since you're testifying as
14 a member of the public, I have to hold you to the
15 three-minute time limit like everybody else. Sorry.

16 MR. GUNASEKARA: Okay. Thanks.

17 CHAIRPERSON NICHOLS: Thank you very much.

18 Adam Smith.

19 MR. SMITH: Hi. Good morning, Chairman Nichols
20 and Board members. My name is Adam Smith. I'm the
21 Program Manager of Climate Policy at Southern California
22 Edison.

23 As I think the first regulated entity testified
24 here today, I'd like to share with you a little bit of the
25 perspective from our side, as well as offer a clear and

1 firm support for the inclusion of the rice cultivation
2 offset protocol in the regulation.

3 Southern California Edison, I think you would see
4 a theme if you look at our comments on the offset market.
5 And it's trying to encourage as much as we can the supply
6 because we view in the long term and right now a robust
7 offset market is key to cost containment. And that even
8 gets more so as we come closer and closer to the year
9 2020.

10 I think the second point -- from that we're not
11 just coming up here saying that again and again. We've
12 actually gone to the market and had a successful RFO where
13 we've heard from many people in this room as well. And
14 one of the items -- and I think it was mentioned by a few
15 of the folks here earlier that it's constantly coming up
16 when we went through the RFO process, when we reached out
17 to project developers and the rest was invalidation risk
18 and how the definitions around invalidation, what
19 precisely it means, what things might trigger this, and
20 the rest, it does create problems not just for offset
21 project developers or for project registries, but for
22 entities, you are regulated under this rule because we're
23 frankly interested in precisely the same things that
24 everyone else is in this room, which is making sure the
25 offsets we're getting are real, verifiable, enforceable,

1 additional, and the rest of the list.

2 The second item, if I could transition quickly,
3 is full and complete support for the inclusion of the rice
4 offset present protocol. I think one of the great things
5 that we have is Yachun Chow, who set up the technical
6 working groups, which I think is also something that
7 should continue if possible on the rest of -- as we look
8 at additional offset protocols in the future. Basically,
9 you know, it gave regulated entities like us a chance to
10 see how the sausage was made. I think as we're talking
11 about the invalidation risk and really under understanding
12 what invalidation might look like in each of these
13 protocols, getting a chance to look at the sausage was
14 made like that was incredibly insightful for us. Not just
15 clearing up those definitions about what invalidation is,
16 but letting folks see how it's all put together.

17 With that, I'll yield the rest of my time. Thank
18 you very much. Happy holidays.

19 CHAIRPERSON NICHOLS: Thank you. Thanks for your
20 testimony.

21 MR. VESSELS: Thank you, Chair Nichols and the
22 Board and staff for inviting me and giving me an
23 opportunity to testify today on the mine methane capture
24 protocol.

25 For one, I think -- and I've told my friends and

1 associates, I think your Cap and Trade Program is best in
2 the world. I don't -- I'm not acquainted with all of
3 them. But one reason I'm impressed with it is focused on
4 the direct activity of greenhouse gas reduction.

5 My focus is on mine methane capture in that
6 field, and I'm here just to suggest that the staff work on
7 clarifying some of the issues. And we've got the car now.
8 We have mine methane capture. Now we're driving it. And
9 so we're getting some experience with some of the issues
10 we'd like to see clarified particularly with regard to
11 invalidation and the validation regarding citations of
12 violations, for instance.

13 I wrote -- I did turn in a letter for me
14 personally about just some anecdotal citations which I
15 don't think would be appropriate to be considered as
16 invalidating offsets. For instance, you have the
17 requirement sometimes from different regulatory agencies
18 for the same facility. And so times you have to actually
19 work out an agreement between who's on, who's off. A well
20 could be regulated by the oil and gas industry because
21 it's -- gas is coming out of the well. And the mining
22 regulatory authorities could still regulate it because
23 methane coming out of a mine.

24 Simple citations could include removing the
25 requirement to remove a hazard that's in a walkway or

1 pathway. Somebody could trip or stumble over. So you
2 should fix that or you get a citation for it. You get a
3 citation for not having put a chalk behind the tire of the
4 truck or vehicle to keep it from rolling backwards.
5 Cleanliness, permitted noise levels in certain areas. Of
6 course, wearing safety gear, gloves, ear protection, eye
7 protection, et cetera. Those are just a number. And they
8 are regularly being cited, and there's numerous agencies
9 that can send in a citation. But that also you want to
10 have the right to that citation is just a citation. We
11 can challenge it. So we don't think it's appropriate to
12 have the offsets invalidated while we maybe have right of
13 due process to challenge it. And then also a lot of these
14 citations are simply an inspector coming by, the mine
15 safety health administration officials saying, "Fix this."
16 Well, okay. So fix it. And so is that my three minutes.

17 CHAIRPERSON NICHOLS: Thank you. We did receive
18 several letters on this topic, and I think the staff will
19 be asked to address this topic in a moment.

20 Mr. Brunello.

21 MR. BRUNELLO: Hello. Thanks for the time. Tony
22 Brunello representing CE2 Carbon Capitol.

23 I'll be very brief. We worked closely with the
24 staff, Rajinder and Greg, Jessica, Ellen, others, Chair
25 and a few other Board members specifically talking about

1 the invalidation issues. I think it's been addressed by
2 Tom, IETA, a number of folks today.

3 The main thing that I think is being done and
4 we've been told and reference it's just a matter of timing
5 and specificity around this invalidation topic.

6 So my only comment today as the Board is there's
7 great opportunity to provide more detail and specificity
8 around the borders on this topic. Again, I think staff
9 know full well of the issue. We just hope there can be
10 some guidance in the near term. So anyway, that's all I
11 have to say. Thank you very much.

12 CHAIRPERSON NICHOLS: Thank you.

13 Ms. Harrison. Mary Harrison from Green Action.
14 Not here. Then Mark Krausse is our last witness.

15 MR. KRAUSSE: Madam Chair, members of the Board,
16 Mark Krausse on behalf of PGE. Very brief just to support
17 the adoption of these protocols and to encourage the
18 development of additional protocols as we enter into the
19 second compliance period in a much expanded market, the
20 need for more control. And I think I beat Tony Brunello.
21 Thank you.

22 CHAIRPERSON NICHOLS: I'm going to turn the
23 gravel -- the nonexistent, the psychic gavel here over to
24 my colleague, Mr. Serna, to handle the discussion around
25 the Resolution. But I think we've had a good array of

1 testimony here this morning and probably just need a
2 little bit more discussion on a couple of the items that
3 were raised. Thanks.

4 ACTING CHAIRPERSON SERNA: Thank you, Chairman
5 Nichols.

6 Again, I want to thank all the witnesses that
7 took time and energy to submit written comments and to be
8 here this morning. At this point, we will bring it back
9 to the Board for any comments, questions of staff,
10 suggestions for the language change.

11 BOARD MEMBER EISENHUT: On the rice, my comments
12 are specific to the proposed rice protocol. I support
13 this action. I think, as has been stated, it will provide
14 a mechanism for the California crop agriculture to
15 participate in the reduction of greenhouse gases. It will
16 do so with minimum or no risk to production capability,
17 provide some income, and maintain the rice industry's
18 involvement with flyways.

19 I do have a couple additional comments in the
20 context of Paul's comments about being sensitive to the
21 rather minimal economic impacts. And I applaud staff for
22 their work to date in minimizing the aggregation and
23 verification issues. But whatever we can do to continue
24 to streamline the process is encouraged.

25 I, at this time, have difficulty. I cannot

1 support the bailing option. I don't think there's -- I
2 don't think there's enough technical data. It may be
3 sound theoretically, but I don't believe we have technical
4 data to support that option.

5 And lastly -- and this is somewhat of a leap.
6 But it was mentioned a couple times today. Now that staff
7 has developed this expertise, walked through this process,
8 and has become involved in this kind of a learning
9 process, I think it's time and I would encourage our look
10 at whether we call it a nitrogen protocol or a nutrient
11 protocol. I think it's time to at least take a look at
12 that process. Thank you.

13 ACTING CHAIRPERSON SERNA: Mayor Mitchell.

14 BOARD MEMBER MITCHELL: Thank you, Supervisor.

15 Just a couple of items that seem to rise to the
16 top of the list here. We heard some comments about the
17 California Forest Practices Act and maybe inconsistency in
18 our regulation with that Act. So I just would like staff
19 to be working on it to make sure that we are not creating
20 a monster where we have inconsistencies.

21 The other issue raised by Blue Source was this
22 time frame from 2006 to 2012. Of course, that was sort of
23 in the middle our economic downturn. So I think we want
24 to take a look at that time frame. And it may extend that
25 out so that we do have accurate representation of economic

1 conditions and other conditions during that period we're
2 looking at.

3 And of course finally, this issue of violations
4 and what kinds of violations will result in invalidation
5 of the offset. That's critical I think. We've heard that
6 from all -- not just rice, the proposed rice protocol, but
7 from coal mine methane and from the forestry people as
8 well. So what kinds of violations actually affect the
9 integrity of the offset. I think that's going to be a
10 thorny issue, but something that needs to be worked on.
11 So those are my comments. Thank you.

12 CHAIRPERSON NICHOLS: Dr. Balmes.

13 BOARD MEMBER BALMES: I want to comment on the
14 other category. Going back to the staff presentation on
15 slide four, there was a bullet on adaptive management. As
16 I think staff knows, I've been very interested in that for
17 a long time. And I feel bad since I've already asked for
18 an update on what we are doing in terms of cap and trade
19 with other state jurisdictions, I'd also like an update
20 about adaptive management in the near term. Doesn't have
21 to be tomorrow. I realize holidays are coming, and I
22 realize staff is overworked. But I would like to hear
23 what we're doing in this regard.

24 DEPUTY EXECUTIVE OFFICER COREY: We'll see that
25 happens, Dr. Balmes. I'm glad it's not tomorrow. Thank

1 you.

2 ACTING CHAIRPERSON SERNA: Any other comments
3 from Board members?

4 Ms. Berg.

5 BOARD MEMBER BERG: I just would like to follow
6 up on couple of comments from my fellow Board members.

7 One on -- I really want to echo Mayor Mitchell's
8 comments, specifically on the invalidation and being a
9 regulated company. I can testify to the types of
10 citations one can get, keeping records, but not the
11 records that one inspector wants, then five years later
12 another inspector comes in and wants it a different way.

13 I do also understand it's a slippery slope
14 because there are many regulations that critically protect
15 the health of workers and the facility and the surrounding
16 communities. And so somehow ARB does need to weed through
17 the minutia of how do we protect the health and safety of
18 not only workers and the surrounding communities, but
19 protect the integrity of what these offsets would be.

20 I can't tell you how I believe it is not an easy
21 job and it's a very slippery slope. But if we don't do
22 that, what's going to be in front of Mr. Corey often is
23 just a whole slough of possible invalidations. And all of
24 a sudden we're going to be looking at citation by citation
25 what is meaningful and what is not. So that's going to

1 take a little bit of time. And it might be worth getting
2 some of our partners involved. So that if you were to
3 talk with some of the other agencies, what really rises to
4 the level of what should invalidate an offset, especially
5 when it doesn't mean that the emission was invalidated.
6 It is real. It is verifiable. But we have this extended
7 situation that should -- maybe we should get some other
8 agency's involvement so we have some partnering in this.
9 That's what I would suggest on that.

10 Also from the forestry testimony, I really would
11 appreciate if staff can go back and look at the retention.
12 It looks like there's some base issues. I'm sure you're
13 working with them on that. But I would be in favor of us
14 being in harmony. And I agree with the comment that --
15 and evidently it was your comment in a meeting that our
16 goal isn't to do the job of other departments, but in
17 fact, make sure we're in harmony with the rules and
18 regulations of other departments.

19 The other thing from the rice protocol, I would
20 be interested in additional data. And I've checked with
21 my fellow Board member here and the additional data on
22 bailing. It does seem that if this is going to be a
23 successful protocol, we do need to find ways of capturing
24 more emissions, and one of the emissions source is the
25 second flooding. So it does seem that we should take an

1 active role in gathering that data and making a
2 determination based on scientific data and what the
3 benefits are that might outweigh some of the concerns.

4 And I think that that does it for me. Thank you
5 very much, Supervisor.

6 ACTING CHAIRPERSON SERNA: Great.

7 Any other comments? If not, Mr. Corey, this is a
8 Resolution that gives staff direction, including what
9 you've just heard in terms of these two protocols. Can
10 you briefly explain next steps?

11 DEPUTY EXECUTIVE OFFICER COREY: Yes. So next
12 steps by virtue of acting on the Resolution, it's
13 directing staff to really follow up on the Board
14 presentation and the number of discussions and work with
15 stakeholders in the terms of a 15-day change process.

16 So you called out a number of elements here,
17 including the forest practices and the consistency with
18 other State agencies. We would work through that process,
19 develop proposed language through a stakeholder process
20 including workshop engagement with stakeholders. That
21 would go out for public comment. We would get public
22 comments. We would prepare written responses to the
23 environmental related comments and collectively the whole
24 package, return to the Board, walk through the adjustments
25 that have been made based on the public process. That

1 would be the hearing where we would discuss action on the
2 proposed amendments.

3 To go through that whole process will take us
4 several months. This is going to be based on the comments
5 that you've heard through the engagement here and a number
6 of actually very I think important observations that were
7 made both on the rice and forestry protocol. But for us
8 at least what I'm taking note of the path in terms of
9 working with those stakeholders I think is relatively
10 clear. It's just we need some time to work through that
11 process and settle on specific language.

12 ACTING CHAIRPERSON SERNA: Very good.

13 With that, I'll entertain a motion.

14 BOARD MEMBER MITCHELL: I move adoption of the
15 Resolution.

16 BOARD MEMBER DE LA TORRE: Second.

17 ACTING CHAIRPERSON SERNA: It's been moved and
18 seconded.

19 All in favor?

20 (Unanimous aye vote.)

21 ACTING CHAIRPERSON SERNA: Opposed? Abstain?
22 Motion carries.

23 Before we continue, let me find out what the
24 pleasure of the Board is. We have a couple more items on
25 today's agenda. Do you want to press through? We do have

1 closed session. So break for lunch for -- what do you
2 think, Ellen?

3 CHIEF COUNSEL PETER: The closed session can be
4 completed in 15 minutes, depending on how many questions.

5 ACTING CHAIRPERSON SERNA: We'll round it up to
6 1:00. Gives us time to actually have some food.

7 With that, we stand in recess until 1:00.

8 (Whereupon a recess was taken from 12:10 p.m.
9 to 1:06 p.m.)

10 ACTING CHAIRPERSON SERNA: I'm going to call to
11 order the California Air Resources Board meeting for
12 Thursday, December 18, 2014.

13 There was nothing to report. No action was taken
14 in closed session.

15 With that, I'm going to forgo the usual eloquent
16 preface that our Chair Nichols usually gives and ask Mr.
17 Corey if he will introduce the item.

18 DEPUTY EXECUTIVE OFFICER COREY: Yes, thank you
19 Chairman.

20 Before I get to the technology assessment, I
21 wanted to touch on the sustainable freight strategy.

22 In January, the Board directed staff to start the
23 development of the strategy with the goal of releasing a
24 draft this month. Now, after extensive consultation and
25 many -- actually hundreds of meetings, workshops with

1 stakeholders, we decided to modify the development which
2 is why staff is not providing an update on the strategy
3 today.

4 With all of our air quality and climate drivers,
5 our goal is -- it's nothing short than to transform the
6 freight sector to run with zero emissions everywhere
7 possible and near zero emissions with renewable fuels
8 everywhere else.

9 And in response, staff plans to develop an
10 initial document over the next several months that
11 describes ARB's vision and options towards zero or near
12 zero emissions for each sector. It will also identify
13 possible regulatory and voluntary levers to discuss with
14 the Board.

15 So this document that we'll return to the Board
16 with in the next few months will build on what we've been
17 learning through the technology and fuels assessments and
18 stakeholder input that we continue to receive.

19 So with that, now I'd like to transition to the
20 technology assessment Board Item. Staff has been
21 conducting an assessment of technologies and fuels that
22 can provide criteria pollutant and greenhouse gas emission
23 reductions from heavy duty motor vehicles, equipment, and
24 vessels. To meet California's air quality standards and
25 climate goals, we must deploy advanced mobile source

1 technologies and cleaner renewable fuels. Zero emission
2 technology is fully commercialized in some applications
3 and in pilot deployment or demonstration across multiple
4 sectors. California can and should work to promote the
5 development and deployment of zero and near zero emission
6 equipment everywhere feasible and really work to achieve
7 substantial reductions elsewhere.

8 So after this Board meeting, staff will be
9 releasing a draft overview for public comment highlighting
10 the work of the assessment so far. Over the next few
11 months, staff will be releasing for public comment a
12 series of sector reports for trucks, locomotives, marine,
13 cargo handling, and aviation sources as they're completed.

14 So now I'd like to ask Renee Littaua of the
15 Mobile Source Control Division to present the overview of
16 the technology and fuel assessment work. Renee.

17 (Thereupon an overhead presentation was
18 presented as follows.)

19 STAFF AIR POLLUTION SPECIALIST LITTAUA: Thank
20 you, Mr. Corey.

21 Good afternoon, Chairman Nichols and members of
22 the Board.

23 Today, I will present an overview and status
24 update on the technology and fuels assessment. This is an
25 informational update. And as we will be discussing, this

1 work is continuing.

2 --o0o--

3 STAFF AIR POLLUTION SPECIALIST LITTAUA: The
4 presentation will discuss why we are conducting this
5 assessment, highlight heavy-duty zero and near zero
6 emission technologies, identify ways to maximize
7 efficiencies from improved engine and vehicle designs and
8 more efficient operations, and describe next steps to
9 complete the assessment.

10 --o0o--

11 STAFF AIR POLLUTION SPECIALIST LITTAUA:
12 California's mobile source programs have dramatically
13 reduced emissions. Most of today's on- and off-road
14 engines are 90 percent cleaner for NOx and PM than those
15 produced a decade ago. Fleet rules and incentive programs
16 have accelerated the use of these cleaner engines. ARB's
17 programs, working in concert with air districts and
18 industry efforts, are reducing emissions statewide and are
19 providing focused reductions in disadvantaged communities,
20 including a 70 percent reduction in diesel PM emissions at
21 California's largest ports, and a 50 to 70 percent
22 reduction in diesel PM at the highest risk rail yards.

23 --o0o--

24 STAFF AIR POLLUTION SPECIALIST LITTAUA: Despite
25 this substantial progress, more reductions are needed to

1 meet air quality and climate goals. Current modeling
2 shows a 90 percent reduction in NOx will be necessary to
3 achieve 2032 ambient ozone air quality standards in the
4 South Coast, with substantial reductions also needed in
5 the San Joaquin Valley and other non-attainment areas of
6 the state.

7 A new federal proposal for a more health
8 protective ozone standard will make attainment even more
9 challenging. And while our programs are achieving
10 substantial reductions in diesel PM exposure, risks are
11 still high. Additional reductions are necessary to
12 continue progress to minimize exposure to diesel PM,
13 especially in disadvantaged communities.

14 Finally, an 80 percent reduction in greenhouse
15 gas emissions is needed by 2050 to achieve our climate
16 goals.

17 --o0o--

18 STAFF AIR POLLUTION SPECIALIST LITTAUA:

19 Achieving these emissions reductions in all sectors will
20 require integrated air quality and climate planning, and
21 this is especially true in the mobile source sector. We
22 are beginning to develop strategies to transition the
23 mobile source sector to zero and near zero emission
24 technologies.

25 Development of these strategies requires a full

1 understanding of these technologies. We have an
2 established procedure for assessing technologies in the
3 light-duty sector through the midterm review for advanced
4 clean cars and zero emission vehicle programs. There was
5 a need for a similar process in the heavy-duty sector, so
6 we initiated this technology assessment.

7 The technology assessment we are discussing today
8 focuses on heavy-duty vehicles and equipment. When
9 completed, it will provide the technical foundation for
10 current and future planning efforts, including the
11 development of upcoming SIPs, updates to the Scoping Plan,
12 California's integrated freight planning efforts,
13 incentive funding plan development, and updates to the
14 Governor's ZEV action plan.

15 --o0o--

16 STAFF AIR POLLUTION SPECIALIST LITTAUA: This
17 technology and fuels assessment will help inform policy
18 decisions that support technology development and bolster
19 markets for near zero and zero emission technologies in
20 the heavy-duty sector.

21 Given the wide range of engines and vehicle
22 applications in the heavy-duty sector, achieving this
23 transition may require several steps. In this assessment,
24 we are evaluating not only zero and near-zero emission
25 technologies, but also technologies like vehicle and

1 engine efficiencies, hybridization, and lower emission
2 standards that provide near-term reductions and a pathway
3 to development of zero and near-zero emission
4 technologies.

5 The source categories covered in the assessment
6 include trucks and buses, locomotives, marine, including
7 oceangoing vessels and commercial harborcraft, off-road
8 equipment, airport sources, including aircraft, ground
9 support equipment, and shuttles and fuels.

10 --o0o--

11 STAFF AIR POLLUTION SPECIALIST LITTAUA: Staff is
12 developing this technology assessment in partnership with
13 local air districts and state agencies. Staff is
14 reviewing available reports and academic literature and
15 consulting with a wide array of stakeholders, including
16 engine and equipment manufacturers, fuel providers,
17 environmental and community groups, fleet operators, and
18 federal, state, and local governments.

19 Staff held workshops over three days in early
20 September and is working to finalize sector-specific
21 assessments.

22 Today's presentation provides an overview update
23 on staff's work so far as well as preliminary
24 observations. Staff is working to release a companion
25 overview document of today's presentation within the next

1 several weeks. The detailed sector specific reports will
2 be released for public comment as they are completed over
3 the next several months.

4 Staff will incorporate comments and expects to
5 finalize the overview and sector reports in 2015. These
6 technology assessments will be updated periodically as
7 necessary to support air quality and climate planning.

8 --o0o--

9 STAFF AIR POLLUTION SPECIALIST LITTAUA: The
10 technology assessment focuses on several elements
11 including the uses of vehicles and equipment in each
12 sector, the current regulatory structure within the
13 sector, the development status and current and projected
14 cost of each assessed technology, emissions reduction
15 potential, and deployment opportunities and challenges.

16 Our goal is to understand not just the technology
17 options in each sector, but also the key factors relevant
18 to future policy framework development.

19 --o0o--

20 STAFF AIR POLLUTION SPECIALIST LITTAUA: Staff is
21 evaluating multiple technologies in each sector, including
22 battery and fuel cell electric propulsion, very clean
23 combustion engines, and hybrids.

24 Staff is also evaluating technologies to improve
25 efficiency, as well as automation and communication

1 technologies that could increase efficiency and optimize
2 use of current infrastructure.

3 Staff is also evaluating conventional,
4 alternative, and renewable fuels, including electricity,
5 hydrogen, natural gas, and diesel. Zero and near-zero
6 emissions technologies achieve their greatest benefits
7 when operated on renewable fuels. The sources of these
8 fuels and fueling infrastructure are important to
9 understand and consider in policy development.

10 --o0o--

11 STAFF AIR POLLUTION SPECIALIST LITTAUA: When
12 comparing technologies for criteria pollutant emissions
13 performance, tailpipe emissions are most important to
14 consider.

15 Criteria pollutants like NOx and PM affect
16 regional air quality and localized health risks, and the
17 location of these emissions matter.

18 Greenhouse gas emissions, on the other hand, are
19 global pollutants, and it is important to consider all
20 emissions associated with a vehicle and fuel wherever they
21 occur.

22 To compare technologies for greenhouse gas
23 emissions performance, staff is developing fuel well to
24 wheels life-cycle-based emission factors. These factors
25 include both tailpipe emissions that account for vehicle

1 efficiencies and emissions standards and upstream
2 emissions from fuel production and distribution.

3 --o0o--

4 STAFF AIR POLLUTION SPECIALIST LITTAUA: Now
5 moving on to zero and near-zero emission technologies.

6 --o0o--

7 STAFF AIR POLLUTION SPECIALIST LITTAUA: Zero
8 emission technologies are commercially available in some
9 applications today where there is a business case for
10 their use. Staff believes zero emission technologies are
11 feasible in many heavy-duty applications, but developing
12 these technologies is challenging. There are higher
13 up-front costs associated with lower production volumes.
14 These costs will decrease as production volumes increase.

15 Zero and near-zero emission technologies needs
16 fueling infrastructure, and ARB will be working with other
17 stakeholders and other government agencies to help make
18 that happen.

19 While the range of today's vehicle is suitable in
20 many applications today, ongoing efforts to extend this
21 range will result in broader deployments in the future.

22 Zero-emission technologies have been generally
23 demonstrated to have lower fuel and maintenance costs than
24 their conventional counterparts, which improves
25 competitiveness with conventional technology.

1 Demonstrations and incentives are being expanded to begin
2 the process of moving zero-emission technologies to market
3 in many heavy-duty applications.

4 --o0o--

5 STAFF AIR POLLUTION SPECIALIST LITTAUA: Here are
6 some examples of zero emission equipment that are
7 commercially available today and are competing directly
8 with conventional technology. These vehicles have been
9 demonstrated and proven to work in their application and
10 are being purchased where there is a business case for
11 their use. For example, zero tailpipe emissions are
12 particularly important for forklifts operated indoors and
13 zero emission technologies are important at facilities
14 with sensitive air quality impacts, including ports and
15 airports.

16 --o0o--

17 STAFF AIR POLLUTION SPECIALIST LITTAUA: Here are
18 several examples of zero emission technologies that have
19 recently been offered commercially. These vehicles have
20 not yet achieved a substantial market share, but they are
21 competing directly against conventional technologies. For
22 example, both fuel cell and battery electric buses have
23 been demonstrated and proven to meet the needs of their
24 operators. And while they have higher upfront costs than
25 conventional buses, several transit agencies are operating

1 these buses, which provide a full service replacement for
2 conventional technologies in most applications.

3 Electric transport refrigeration units and fuel
4 cell forklifts are both examples of zero emission
5 technologies competing in today's marketplace. Incentives
6 and regulations can play a major role in the continued
7 market expansion of these technologies.

8 --o0o--

9 STAFF AIR POLLUTION SPECIALIST LITTAUA: Here are
10 several examples of zero-emission technologies that are
11 being demonstrated in heavy-duty applications.

12 Demonstration scale technologies have been assembled in
13 small volumes and are being deployed to demonstrate how
14 the technology will function in use. Zero emission
15 drayage trucks are being demonstrated at southern
16 California ports and zero-emission delivery trucks are
17 being demonstrated in large companies like UPS and Fed Ex.
18 These technologies are well suited to regional
19 applications that are within their range and allow return
20 to base refueling.

21 Other technologies show the potential for
22 providing additional benefits. Vehicle grid integration
23 is being demonstrated in school buses. It allows the
24 buses not only to receive power from the grid, but also to
25 feed power back to the grid. The bus batteries could even

1 help provide backup power to school districts, and the
2 revenue from the power fed back to the grid can also help
3 offset the incremental capital costs of the bus.

4 Zero-emission switcher locomotives could help
5 reduce emissions at rail yards in disadvantaged
6 communities. The State's continue investment in
7 demonstration funding is critical to expanding
8 zero-emission technologies into new heavy-duty
9 applications.

10 --o0o--

11 STAFF AIR POLLUTION SPECIALIST LITTAUA: In some
12 applications, the development of zero emission
13 technologies may require several steps. Hybrid
14 technologies can provide fuel savings and emission
15 benefits can also provide a pathway to commercialization
16 of zero-emission technologies.

17 Hybrids that provide a zero-emission miles or
18 activity capability help to commercialize batteries and
19 other zero-emission componentry necessary in heavy-duty
20 applications. Using hybrid technology to capture
21 regenerative energy, especially in off-road equipment and
22 in on-road vocational applications can allow for
23 downsizing the main proposal to reduction savings. Staff
24 believes these technologies show promise in many
25 applications.

1 Beyond hybrids, there are other ways to reduce
2 emissions by electrifying non-propulsion power uses while
3 the vehicle is parked or at berth.

4 --o0o--

5 STAFF AIR POLLUTION SPECIALIST LITTAUA: Here are
6 examples of hybrid applications, all of which could
7 provide some zero emissions operation. The picture on the
8 top left is a hybrid electric van, which has a pure
9 electric range of up to 40 miles.

10 The locomotive battery or fuel cell tender
11 concept, shown on the right, could be applied to
12 locomotives for providing zero emission track miles.
13 Current locomotives are powered by diesel electric
14 engines, but do not provide any all-electric range because
15 they do not have batteries. A battery or fuel cell tender
16 might be directly connected to a locomotive to provide an
17 all-electric range and capture energy from dynamic
18 braking. One manufacturer has suggested an all-electric
19 range potential of up to 150 miles, which could provide
20 substantial emissions reductions.

21 Staff see the battery or fuel cell tender concept
22 as an important technology to demonstrate through
23 incentive funding.

24 The picture on the lower left is a diesel
25 electric ferry operating in the San Francisco Bay. It

1 uses energy from solar, wind, grid electric, and diesel
2 generators to power the vessel and can operate on
3 propulsion batteries alone for over an hour.

4 --o0o--

5 STAFF AIR POLLUTION SPECIALIST LITTAUA: Current
6 ARB regulations require increasing use of both vessel
7 shore power, as well as plug-in transport refrigeration
8 units. Those technologies are pictured here on the right.

9 On the left are technologies that can reduce
10 aircraft emissions while on the ground, including jet
11 bridge and alternative taxiing technologies. These
12 technologies reduce exposure to diesel PM and particulate
13 exhaust at large transportation and freight hubs like
14 ports, distribution centers, and airports.

15 --o0o--

16 STAFF AIR POLLUTION SPECIALIST LITTAUA: Staff
17 considers technologies that provide a 90 percent reduction
18 in NOx, such as those certified to the lowest optional NOx
19 standards, and operate on renewable fuels to be near-zero
20 emissions technologies.

21 ARB and the South Coast Air Quality Management
22 District have initiated programs with manufacturers and
23 researchers to develop low emission diesel and natural gas
24 on-road engines.

25 Staff expects natural gas engines meeting these

1 standards will be available in the near term and that
2 diesel engines will eventually meet this target. These
3 cleaner vehicles could be made eligible for enhanced
4 incentive funding.

5 --o0o--

6 STAFF AIR POLLUTION SPECIALIST LITTAUA: The
7 transition to zero and near-zero emissions technologies
8 will take time to accomplish. And while these
9 technologies continue to develop, staff see near-term
10 opportunities for reducing emission from conventional
11 technologies, as we shared with the Board in October in
12 Diamond Bar.

13 Improving existing testing and certification
14 requirements is a priority. Improvements in certification
15 test cycles not to exceed requirements, durability
16 requirements, and warrantee periods could all help ensure
17 in-use emission reductions.

18 Enhanced inspection and maintenance programs
19 present another opportunity to achieve in-use emission
20 benefits, especially for particulate matter and especially
21 in disadvantaged communities.

22 Finally, in the off-road, rail, and marine
23 sectors, some of the off-road engines meet certification
24 requirements without using aftertreatment. In these
25 applications, lower and broader certification standards

1 could effectively require use of aftertreatment and
2 achieve lower in-use emissions.

3 --o0o--

4 STAFF AIR POLLUTION SPECIALIST LITTAUA: Zero and
5 near-zero emission technologies achieve their greatest
6 benefits when operated on renewable fuels. These fuels
7 are being encouraged through the low carbon fuel standard,
8 the renewable portfolio standard, and SB 1505, which
9 requires 33 percent of hydrogen to come from renewable
10 sources.

11 Wind and solar and some other sources of
12 renewable energy vary by time of day and time of year. So
13 there is increasing interest in ways to store that
14 renewable energy to better match supply with peak demand.
15 Vehicle-grid integration and power-to-gas technologies
16 provide a mechanism to store renewable energy when it is
17 generated and to deliver it when it is needed.

18 These technologies are powerful tools, creating
19 synergies between the electrical grid and zero and
20 near-zero emission vehicles. They help balance
21 electricity supply and demand and increase the value of
22 the vehicles that operate on electricity, hydrogen, and
23 synthetic methane.

24 --o0o--

25 STAFF AIR POLLUTION SPECIALIST LITTAUA: Staff

1 also looked at ways to reduce emissions by maximizing
2 efficiencies.

3 --o0o--

4 STAFF AIR POLLUTION SPECIALIST LITTAUA: Vehicle
5 and engine technologies can provide 40 percent or more
6 reduction in greenhouse gas emissions in most heavy-duty
7 sectors. The technologies with the potential to provide
8 these reductions vary by equipment type. In vocational
9 and off-road applications, hybrid and shore power type
10 technologies show promise. Whereas, in long-haul trucking
11 and shipping operations, technology that improve engine
12 and vehicle efficiencies, including aerodynamics, Cummins
13 Peterbilt can provide substantial benefits. For example,
14 the Cummins Peterbilt truck shown here has achieved a
15 doubling of fuel economy in long-haul applications.

16 --o0o--

17 STAFF AIR POLLUTION SPECIALIST LITTAUA: While
18 the super trucks are one of a kind prototypes, the truck
19 and engine manufacturers are applying many of the lessons
20 learned to assembly line new truck production. This slide
21 shows some of the efficiency improving technologies being
22 used in today's newer trucks. Many of these technologies
23 will be integrated into trucks meeting future Phase 2
24 standards.

25 --o0o--

1 STAFF AIR POLLUTION SPECIALIST LITTAUA:

2 Oceangoing vessels are another great of example of how
3 technologies can improve efficiency. Improved combustion
4 technologies, engine controls, waste heat recovery, and
5 advanced lubrication can improve engine efficiency. These
6 engines may operate on diesel, natural gas, or in dual
7 fuel applications.

8 Advanced fuel propeller designs and improved
9 paints, coatings, and air lubrication systems reduce
10 friction, allowing the vessel to move through water with
11 less energy expended.

12 --o0o--

13 STAFF AIR POLLUTION SPECIALIST LITTAUA:

14 Technologies are improving both aircraft efficiency and
15 reducing emissions. Advanced engine technologies are
16 being developed that provide better fuel economy and
17 reduce NOx. Aircraft designs are improving, reducing
18 weight and improving aerodynamics. Fuel cell auxiliary
19 power units could replace conventional combustion
20 auxiliary power units.

21 Finally, biofuels are being demonstrated in
22 commercial and military applications, including operations
23 at LAX. The combination of improved aircraft designs,
24 lower criteria pollutant emissions, and biofuels can
25 provide substantial emissions reductions to support air

1 quality and climate goals.

2 --o0o--

3 STAFF AIR POLLUTION SPECIALIST LITTAUA:

4 Connected vehicles, automated vehicles, intelligent
5 transportation systems are all technologies with the
6 potential to provide more efficient trips and routes,
7 smoother driving cycles, and improved safety through
8 applications like collision avoidance and anti-lock
9 braking. These technologies provide opportunities in the
10 future for lighter vehicles and smaller engines.

11 A couple of examples of current applications
12 covered in the technology and fuels assessment include
13 terminal automation at distribution centers, warehouses,
14 and port terminals, platooning, shown here in the picture
15 which reduces drag and improves fuel economy for both
16 trailing vehicles and the lead vehicle.

17 Vehicle to vehicle and vehicle to infrastructure
18 communication technologies can enable both smoother
19 driving conditions which reduce emissions and reduce
20 travel times, which allows for more efficient use of
21 existing infrastructure.

22 These technologies are also applicable to
23 off-road applications like construction and agriculture
24 where automation technologies can reduce the amount of
25 work and therefore emissions necessary to complete a

1 project.

2 --o0o--

3 STAFF AIR POLLUTION SPECIALIST LITTAUA: And now
4 preliminary observations and next steps.

5 --o0o--

6 STAFF AIR POLLUTION SPECIALIST LITTAUA: As our
7 technology assessment continues to gel, we believe zero
8 and near-zero emission technologies can be effective in
9 most heavy-duty applications. Some are commercially
10 available today, while others are being developed through
11 demonstrations.

12 In applications where zero emission technologies
13 may not currently meet performance requirements, pathway
14 technologies can be encouraged that move technologies
15 towards zero emissions, while providing substantial
16 reductions today.

17 Our assessment suggests there are many vehicle
18 engine and operational improvements that could
19 dramatically reduce greenhouse gas and criteria pollutant
20 emissions. These technologies should be encouraged.

21 Finally, meeting climate goals will require
22 renewable fuels and strategies to increase available
23 volumes of these fuels are underway. As important,
24 vehicle-grid integration and power to gas technologies
25 suggest that synergistic relationship between renewable

1 electricity on the grid, electricity supply and demand
2 management, and zero and near-zero technologies in the
3 light and heavy-duty mobile source sector.

4 Zero and near-zero vehicles will be a key
5 component of achieving greenhouse gas reduction targets
6 not just in transportation, but in the broader energy
7 sector.

8 --o0o--

9 STAFF AIR POLLUTION SPECIALIST LITTAUA: As we
10 stated early in this presentation, we are beginning the
11 process of developing new strategies and approaches to
12 transition the mobile sector to zero and near-zero
13 emission technologies. Advanced technology cost and
14 performance need to be considered in the context of our
15 air quality and climate goals, fleet operations, and
16 economics.

17 Incentives and regulatory approaches will play a
18 major role in these new strategies by supporting
19 technology demonstrations and reducing upfront capital
20 costs.

21 Regulations will also play an important role.
22 For example, ARB's ZEV mandate and zero emission bus rule
23 are leading the development of battery and fuel cell
24 technologies. ARB and EPA's regulation of heavy-duty
25 vehicle efficiency is leading to the development of

1 technologies that have the potential to dramatically
2 increase heavy-duty truck freight efficiency.

3 Our assessment shows that deployment of zero and
4 near-zero heavy duty vehicles and equipment, fueling
5 infrastructure, and renewable fuels are all inter-related.
6 An integrated and multi-fueling plan approach is needed to
7 ensure infrastructure is available to support newly
8 deployed technologies. To capitalize on the benefits of
9 vehicle grid integration and to assure incentive dollars
10 are invested to provide emissions reductions consistent
11 with the State's long-term vision to achieve climate, air
12 quality, and public health goals.

13 --o0o--

14 STAFF AIR POLLUTION SPECIALIST LITTAUA: This
15 technology assessment is being developed through a public
16 process. We anticipate releasing an overview document for
17 public comment in late December or early January.
18 Sector-specific draft documents will be released for
19 public comment early next year. We will work to finalize
20 the overview and these draft documents in 2015 based on
21 comments received and additional information. Results
22 from these assessments will be integrated into upcoming
23 planning efforts.

24 This concludes my presentation.

25 ACTING CHAIRPERSON SERNA: Thank you, Renee.

1 Mr. Gioia.

2 BOARD MEMBER GIOIA: Just a question. This
3 obviously ties in very well with the freight strategy and
4 just trying to understand the alignment of the time frame.
5 As you point out in this presentation, this work is really
6 designed to inform the policy discussion in other areas,
7 including freight. So can you be a little more specific
8 about some of the time frame and how you anticipate
9 utilizing the work product here with our freight strategy
10 issues?

11 TRANSPORTATION AND TOXICS DIVISION CHIEF MARVIN:
12 Certainly. What we expect is that the staff that are
13 working hard on the technology assessments will be
14 simultaneously doing the detailed write-ups and supporting
15 the internal discussions about these options that we see
16 to move towards zero and near-zero emissions. So we
17 believe that we can get a draft vision document on this
18 out in the spring time frame probably about March, and
19 then we are suggesting returning to the Board for a
20 discussion of that document in April.

21 ACTING CHAIRPERSON SERNA: Any other questions of
22 staff before we hear from our witnesses?

23 We'll have time for questions after the speakers.
24 We have a list of 18 speakers, as you can see from the
25 projector on the wall there. I'm going to respectfully

1 ask speakers to be aware of our three-minute limit. First
2 up is Henry Hogo.

3 MR. HOGO: Good afternoon, Supervisor Serna and
4 members of the Board.

5 For the record, I'm Henry Hogo, Assistant Deputy
6 Executive Officer at the South Coast Air Quality
7 Management District.

8 First, I'd like to thank staff for working
9 closely with the South Coast AQMD staff in the technology
10 assessments. We appreciate the staff's efforts to keep us
11 informed on the progress throughout this effort and input
12 from the air districts.

13 The technology assessments conducted are the most
14 detailed and comprehensive to date. We believe the
15 assessments will provide a strong foundation for the
16 development of the sustainable freight strategy and the
17 next round of matches needed for the upcoming 2016 SIP
18 development.

19 As the assessments indicate, there are many
20 advanced technologies that are currently being
21 demonstrated and early commercialization is critical for
22 the South Coast region to meet federal ozone air quality
23 standards by not only 2032, but by 2023.

24 With only eight years to attain the federal ozone
25 standards in 2023, there is a need to develop actions in

1 parallel to the completion of the technology assessments
2 and sustainable freight strategies. These actions will
3 send strong market signals to technology providers and
4 engine manufacturers and provide certainty for end users
5 as they replace their legacy vehicles.

6 We have provided formal comments on the need for
7 early actions to staff and appreciate the recognition for
8 such actions in the draft overview that was given today.
9 We believe that there are additional avenues to pursue for
10 early actions and look forward to working with your staff
11 to completing the technology assessments and development
12 of the sustainable freight strategy.

13 The sustainable freight strategy will set the
14 tone for the future of sustainable freight movement. As
15 such, it needs to be as aggressive as possible,
16 recognizing the need to meet federal air quality standards
17 and climate change goals and a vibrant economy.

18 And thank you for providing the opportunity to
19 comment. I'll be happy to answer any questions.

20 ACTING CHAIRPERSON SERNA: Thank you, Henry.

21 Chris Shimoda. And following Chris will be
22 Angelo Logan.

23 MR. SHIMODA: Chris Shimoda, California Trucking
24 Association.

25 I'd like to first thank ARB staff for their work

1 on these tech assessments and for acknowledging the major
2 reductions made by the trucking industry to date. Thank
3 you very much for that.

4 The CTA submitted some joint comments with the
5 American Trucking Association on the tech assessments back
6 in October for the record. But I'd like to simplify the
7 message a bit here today. As seen in the slides,
8 tomorrow's zero emission trucks will cost much more and do
9 much less than today's diesel truck. That's going to be a
10 major challenge.

11 While we're in the very early demo and prototype
12 stages with several different zero and zero-emission
13 approaches, we've yet to determine how these technologies
14 will ultimately be viable or marketable for manufacturers,
15 fuel suppliers, and the financing entities that the
16 trucking industry relies on or the viability for the over
17 90 percent of the trucking market made up of small
18 businesses. And ultimately whether or not getting those
19 remaining emission reductions will be cost effective, how
20 we're going to get that.

21 That being said, the CTA has supported multiple
22 pieces of legislation in the past few sessions to secure
23 funding for pilot projects of these advanced technologies
24 and will continue working with along with other
25 stakeholders to find fleet participants for these

1 demonstrations.

2 Completing the desired transformation is going to
3 be a monumental undertaking. I think the Board
4 understands that. A collaborative approach with the
5 industry will be a key part of reaching these air quality
6 goals, be they the criteria pollutant or the greenhouse
7 gas reduction targets currently being discussed.

8 So we hope to continue working in this
9 collaborative spirit with ARB. And thank you very much to
10 the Board for the time today.

11 ACTING CHAIRPERSON SERNA: Angelo Logan. And
12 following Mr. Logan will be Taylor Thomas.

13 MR. LOGAN: Hello, members of the Board. My name
14 is Angelo Logan with East Yard Communities for
15 Environmental Justice. Also here with the California
16 Clean Air Freight Coalition.

17 Today, I'd like to comment specifically on the
18 sustainable freight strategy related to this particular
19 item. First, I just want to applaud and thank you and
20 your staff for recognizing the importance of this issue
21 and working hard to address it through this particular
22 strategy.

23 Saying that, I think that it's really important
24 to focus on some long-term and short-term strategies for
25 addressing both the long-term zero-emission priorities but

1 also the localized hot spot impacts, such as rail yards
2 and others that have very localized hot spot impacts so
3 that there is near-term strategies as well as long-term
4 zero-emission strategies.

5 One of the things that I'm worried about
6 personally is that we are moving into an effort to make
7 this strategy more robust and working with other folks,
8 other agencies and whatnot. I think that's smart.

9 But the one thing that makes me nervous is that
10 this year effort turns into two, three, four, five years
11 down the road and we see very little progress.

12 So to that end, I'd like to recommend that the
13 Board and staff commit to a very specific time line that
14 lays out how we're going to accomplish specific goals,
15 near-term and long-term goals.

16 And with that, I want to thank you and also offer
17 our aid in working with you and your staff as we move
18 along with this project. Thank you.

19 ACTING CHAIRPERSON SERNA: Taylor Thomas. And
20 then Laura Baker.

21 MS. THOMAS: Good afternoon, honorable Board and
22 staff.

23 My name is Taylor Thomas. I'm with East Yard
24 Communities for Environmental Justice. And I'm a resident
25 of Long Beach. And this is my first time speaking here.

1 So please be gentle.

2 First, I want to praise the Board and the staff
3 for all of your hard work towards a sustainable freight
4 strategy. This is a positive move forward and a wonderful
5 opportunity for you to be leaders in the nation.

6 I'll tell you a little bit about myself. I grew
7 up near the I-710 freeway, Pacific Coast Highway, and the
8 ICTF railyard. I was diagnosed with asthma at the age of
9 seven as a result of living next to these pollution
10 sources. Many people in my community also live with
11 illnesses, such as asthma and cardiovascular disease. We
12 experience high rates of cancer and asthma as well.

13 Earlier this year, when I moved into downtown
14 Long Beach, I thought I had escaped this toxic soup. But
15 I now live within a mile of the port of Long Beach. And
16 as evidenced by the black dust that constantly coats my
17 windowsills, I'm still in the middle of that toxic soup.

18 So I'm telling you all of this because I want to
19 stress the importance and urgency of moving the strategy
20 forward and moving expeditiously. There is a health
21 crisis in my community, and the people living there are
22 counting on you to address this as soon as possible.

23 Thank you.

24 ACTING CHAIRPERSON SERNA: Thank you.

25 Laura Baker.

1 MS. BAKER: Good morning. My name is Laura
2 Baker. I'm with the Coalition for Clean Air. And I
3 coordinate the California Clean Air Freight Coalition, of
4 which you've already heard a few of our members speak
5 today. And you'll hear several more. We're here with a
6 group of 25 nonprofits of environmental, environmental
7 justice, health, and science-based groups from around the
8 entire state that are both impacted by and focused on the
9 goods movement sector, which will be the focus of the
10 statewide sustainable freight plan here.

11 So having spent the past year actively engaging
12 with ARB staff in this process which the technology
13 assessments will inform, we hoped that we'd have a draft
14 today that we could comment on, which is why so many of us
15 are here.

16 And you know, I think I'll let our able members
17 address their specific early action measures that they see
18 as necessary and specific hot spots that need to be
19 addressed in that strategy. But what I hope you get a
20 sense of above all else is just the mixed feelings that
21 this shift in time line has evoked, both from support for
22 an integrated approach, dismay at another delay,
23 frustration for lack of specific enforceable commitments
24 made to date, and also optimism that a future we all
25 envision is still possible, a future where it's safe to

1 breathe near ports, rail yards, warehouses, and highways.

2 So we appreciate the Board's continued commitment
3 to this goal, staff's dedication to moving forward, and we
4 hope for a swifter progress moving us all forward in the
5 coming months. Thank you.

6 ACTING CHAIRPERSON SERNA: Thank you.

7 Diane Bailey. Following Ms. Bailey will be Don
8 Anair.

9 MS. BAILEY: Good afternoon, members of the Board
10 and staff.

11 My name is Diane Bailey. I'm a scientist with
12 the Natural Resources Defense Council and I'm also happy
13 to be here with the California Clean Air Freight
14 Coalition, which includes several dozen other groups from
15 around the state. We're all working towards cleaning up
16 the freight system and not making it more sustainable, but
17 really moving our freight system off of dirty, polluting,
18 and harmful fossil fuels.

19 I want to talk to you a little more about
20 envisioning a post fossil fuel freight system today.
21 Before I get into that, I just want to note that we
22 strongly support the development of the sustainable
23 freight strategy. It's imperative that we move forward
24 with the sense of urgency to develop this plan. We're
25 very grateful for all of the hard work that staff have put

1 into this plan and that's evident to date. They've done a
2 diligent job meeting with stakeholders and exploring all
3 of the new technologies, and we're area grateful for that.

4 We also strongly support moving forward with
5 early action measures in 2015. And we see that in the
6 overview supplied here today. That was one of the
7 commitments made in the Resolution adopted last January
8 that launched this process. We hope to see that move
9 forward as quickly as possible. Laura has noted the
10 delays and the frustration, but I know you all are working
11 hard.

12 So a couple notes on fossil fuels and why I'm
13 asking you to envision a post-fossil fuel freight system.
14 Fossil fuels are profoundly damaging in every step of the
15 way. From the time that they are mined or fracked or
16 pumped out of the ground to when they are transported and
17 we see the dangerous transport with the exploding cruel
18 oil trains over the past few years that have raised a lot
19 of concern. Fossil fuels are profoundly damaging when
20 they hit refineries. Fence line refinery communities have
21 long suffered from elevated cancer rates, asthma, and a
22 long list of other health impacts. And this continues
23 today with our freight system very dependant on fossil
24 fuels.

25 And finally in the context of freight movement,

1 communities surrounding freight hubs suffer much higher
2 asthma rates and virtually the same health impacts of the
3 refinery fence line communities. And although we've seen
4 tremendous progress in reducing diesel pollution around
5 the state, there are a lot of toxic hot spots that
6 persist. And we really need to pay a lot of attention to
7 those hot pots and to directing early action measures to
8 provide relief to those hot spots.

9 I hope we will move with certainty and speed in
10 the coming months to develop those early action measures
11 to document these health impacts I'm talking about. Back
12 in 2006, there was a wonderful health impact assessment
13 that really put a fine point on the toll of the freight
14 industry and pollution, and we really need renewed updated
15 health impact assessment.

16 So I'm asking you as an agency to embrace a
17 post-fossil fuel freight system as a goal as we move
18 forward with the sustainable freight initiative. And we
19 look forward to working with staff. Thank you very much.

20 ACTING CHAIRPERSON SERNA: Thank you.

21 Don Anair. Following Mr. Anair will be Jerilyn
22 Lopez Mendoza.

23 MR. ANAIR: Good afternoon. My name is Don
24 Anair, Research and Deputy Director of the Vehicles
25 Program at the Union of Concerned Scientists.

1 Just a couple of brief comments today. I wanted
2 to obviously thank the staff for their hard work in
3 developing this technology assessment and looking forward
4 to seeing the overview that will be released later today
5 and the detailed sectorial assessments in the coming
6 months.

7 Obviously, this is a critical step in developing
8 the most robust strategies around freight and other
9 sources, getting a really clear assessment of what's
10 happening with technology today.

11 Echoing one of Diane's comments about the health
12 assessment, I think that's another key piece of the puzzle
13 that we need to have as soon as possible. We are hearing
14 a lot of great news coming out of studies and measurements
15 around the ports and other areas that are validating the
16 work that the Board has done over the more than past
17 decade on reducing diesel emissions. And that's very
18 positive news. But I think it's really important to
19 really understand what the health impacts are today. And
20 we know that we need to go further, but we need to have
21 that quantified in a way that will help inform the
22 development of strategies going forward.

23 In the staff presentation, I was encouraged to
24 hear the approach looking at the need for incentives,
25 regulatory measures that both address advancing advanced

1 technology, zero-emission vehicle technologies, as well as
2 technologies that can improve conventional vehicles. And
3 I think this Board has proven the success of that
4 multi-prong approach with light-duty vehicles and the
5 success of the zero-emission vehicle program and the
6 greenhouse gas standards, which are driving conventional
7 technologies to be cleaner as well.

8 And I think the most near-term action on trucks,
9 which this Board could help influence and be a part of, is
10 the soon to be proposed federal greenhouse gas emissions
11 standards for heavy-duty trucks and achieving a 40 percent
12 emission reduction by 2025 with new trucks.

13 Finally, the last thing I want to mention and
14 show to the Board is that USC is part of the California
15 Clean Air Freight Coalition, and we've recently worked
16 with our partners, the American Lung Association,
17 Environmental Health Coalition, Regional Asthma Management
18 Prevention, Comite Civico Del Valle, and organized the
19 petition to support the effort to reduce emissions from
20 the freight system. And we got over 5,000 signatures here
21 supporting your efforts to basically have a very robust
22 sustainable freight strategy that includes enforceable
23 measures to clean up the air related to freight emissions.

24 So I wanted to give that -- I'll hand that to the
25 Clerk so that you have it all. But I wanted to make sure

1 that you were aware of that. But it's not just a few of
2 us here speaking today, but thousands of Californians.

3 ACTING CHAIRPERSON SERNA: Thank you. We might
4 have a question here.

5 BOARD MEMBER SPERLING: Actually, it's a
6 recommendation to you, turning the tables. You know, we
7 just listened to you and Diane Bailey. You both represent
8 very large, influential, national organizations. I think
9 the real key for all these technologies that we're talking
10 about is scale. We need to get a lot because we're
11 talking about a lot of different types of vehicles and
12 technologies and California can't afford to go it alone.
13 There has to be a more demand, more market, bring the cost
14 down.

15 So my suggestion to you and NRDC and other
16 organizations is to help work with other companies and
17 governments to start increasing a demand in the
18 consumption of these technologies. I think here in
19 California we'll certainly take a lead. But this is a
20 case where scale counts for a lot. So that's my -- and
21 that's taken, you know, acknowledging what Chris from CTA
22 said. He's right that it's expensive. So we need really
23 to stay focused. So that's my suggestion to you.

24 MR. ANAIR: Thank you for the suggestion.

25 ACTING CHAIRPERSON SERNA: Thank you.

1 Jerilyn Lopez Mendoza.

2 MS. LOPEZ MENDOZA: Good afternoon. Jerilyn
3 Lopez Mendoza of SoCal Gas or Southern California Gas
4 Company here to express my excitement about the technology
5 assessments moving forward. We have been interacting a
6 great deal with staff on the technology assessments,
7 particularly as it relates to the natural gas industry.
8 There's been a lot of questions factually about how the
9 natural gas industry moves natural gas, how it's produced,
10 how it's distributed, and what emissions may come from
11 such operations.

12 And I want to thank the staff for engaging us and
13 really doing a deep dive into our industry to find out the
14 answers to these very complex and very difficult
15 questions. So specifically I'm going to call out Todd
16 Sax, who has really been instrumental in terms of bringing
17 folks together and having the difficult conversations.
18 Because even as you hear today from different
19 stakeholders, from your own team, there's conflicts about
20 the use of natural gas moving forward. It has been
21 instrumental in terms of reducing criteria pollutants in a
22 variety of uses. But moving forward, there's concern
23 about greenhouse gas emissions. Putting it out there. We
24 all know it. So we're aware of it. We're looking at ways
25 to reduce greenhouse gas emissions, decarbonizing the

1 pipeline. You heard your staff refer to power to gas,
2 which would produce synthetic methane from renewable
3 sources, excess renewable sources, as well as the use of
4 renewable natural gas. SoCal gas is very interested in
5 pursuing all of those options. We see the future and
6 where it's going, and we want to be part of it.

7 So I just wanted to commend staff and all their
8 hard work. They've been working really hard. They've
9 been taking a lot of tough questions from a lot of folks.
10 Really appreciate their openness. And we look forward to
11 continuing to work with you as we move forward with the
12 sustainable freight strategy and the finalization of the
13 sector technology assessments. And happy holidays to
14 everyone.

15 ACTING CHAIRPERSON SERNA: Thank you. You, too.
16 Joy Williams.

17 MS. WILLIAMS: Good afternoon. I'm Joy Williams.
18 I'm here representing Environmental Health Coalition,
19 which is a nonprofit environmental health and justice
20 organization in the San Diego Tijuana region. We're also
21 a member organization of the California Clean Air Freight
22 Coalition. We work in a number of the most freight
23 impacted communities in the San Diego region, including
24 the port side communities of Barrio Logan and National
25 City, traffic-impacted communities such as City Heights,

1 and border communities such as San Ysidro. I'm here in
2 favor of this sustainable freight strategy moving forward
3 with some concern about the delays.

4 EHC supports an ambitious sustainable freight
5 strategy, and we recognize the need to do this as a robust
6 multi-agency overhauls of the freight system. We applaud
7 the goals stated today of zero emissions and welcome the
8 effort to bring other agencies in the process. All this
9 will take more time than was initially planned for the
10 sustainable freight strategy, and we acknowledge the value
11 of taking more time.

12 However, in the interim, we urge ARB to continue
13 to work on the shorter term actions for which we
14 previously advocated, such as a facility-based strategy.
15 San Diego is one example. The port is currently in the
16 process of expanding both of its cargo terminals with the
17 goal of brining in more cargo thru-put. They are also
18 hiring a new Executive Director who will have as its major
19 charge to increase the revenue from maritime operations.

20 Expansions and cargo thru-put should be happening
21 in lock step with plans to move to cleaner technologies.
22 And yet, our port is approaching each increase in capacity
23 on a case by case basis rather than a facility-wide
24 strategy to shift to cleaner technologies and fuels.

25 We call on ARB to take the action listed in the

1 January 2014 Resolution to begin development of broad
2 principles and criteria for new and expanded freight
3 facilities as a tool for local land use decision makers
4 and community residents. Further development of land use
5 guidance is another urgent near-term measure which can
6 include early actions to address hot spot communities,
7 such as buffers, vegetative barriers, air filtration, and
8 restricted truck routes.

9 Regarding technology development we're interested
10 in options for reducing emissions from the car carrier
11 ships that berth at the National City terminal. One in
12 every ten imported cars on the road comes in through
13 National City. And we know it's not cost effective to
14 shore power those types of ships. So we see a need for
15 other technology options or regulatory requirements to
16 offset those emissions.

17 We look forward to seeing the initial document,
18 and we're pleased to note it will include regulatory
19 levers and will have a zero-emission freight system as its
20 goal.

21 We thank you for that. Thank you for the
22 opportunity to speak today and for the serious and
23 sustained attention ARB is giving to development of
24 California's freight system.

25 ACTING CHAIRPERSON SERNA: Thank you.

1 Thomas Helme. Following Mr. Helme will be Tim
2 Carmichael.

3 MR. HELME: Hello. Thank you for having me today
4 and allowing me to speak.

5 Like I said, my name is Tom Helme. I'm a member
6 of an all-volunteer nonprofit in Modesto called Valley
7 Improvement Projects and also a part of the California
8 Clean Air Freight Coalition.

9 I know what a huge task this is, and I want to
10 thank everybody for all your hard work that you've been
11 putting into the sustainable freight strategy. Coming
12 from Modesto, pretty working class area, I have been
13 involved in many debates between cleaning up our
14 environment and having room for job growth in the area. I
15 have arguments with my friends that are truck drivers and
16 myself, grew up in the middle of an almond, walnut orchard
17 in Hughson, and so I know about the area, the culture of
18 the area and what challenges there are.

19 So I just wanted to say that I'm very happy that
20 you guys are taking this on. There was a little
21 disappointment to hear that there's going to be some
22 delaying in putting out some of the plans. It's very
23 understandable. But something I have learned in just the
24 last couple years of being involved in this type of
25 advocacy is the weight that sometimes we feel that

1 industry may have when influencing decision makers as
2 compared to just regular people.

3 I'm not an expert on a lot of the subjects that
4 you've already heard about today. What I can tell you, I
5 grew up in the Central Valley in Stanislaus County. When
6 I was about 13, I was starting to develop acute asthma
7 problems. About that time, my family moved up to
8 Mendocino County and I spent about eleven years living up
9 in that area. And basically my breathing problems had
10 gone away. I moved back down here or in Modesto in about
11 2006, 2007. Fortunately, I haven't had these health
12 problems come back or anything. But I was working -- I
13 graduated with a journalism degree from Humboldt State.
14 Wanted to move back to Modesto. Had a moderately good job
15 as a radio DJ and a promotions director. And I basically
16 gave all that up because I wanted to spend more time
17 helping the community rather than being an on-air
18 personality.

19 So I started substitute teaching as a way to get
20 involved and still have a job. And while working in a lot
21 of small schools on the west side of the county, I noticed
22 how a lot of the classrooms had the lists of kids with
23 asthma in the class. Kids that when we went out to do PE,
24 you have to keep a special eye on them. Don't make them
25 run as much. And just started to ask -- that was quick.

1 Just started to ask why that was. And that led me into
2 kind of the path that I'm now in helping with CCFC.

3 And just wanted to advocate for the people who
4 are out there breathing the air from the two highways,
5 from the pesticides, from the one of three incinerators in
6 California now with the building of these huge
7 distribution centers with trucks coming in and out. And I
8 just wanted to say thank you again for all of your work.
9 Please keep it up. Please keep in mind the people that
10 are living in those areas, with that, moving forward and
11 more enforcement. I'll put that out there.

12 ACTING CHAIRPERSON SERNA: Thank you.

13 MR. HELME: Thank you. Sorry I went over.

14 ACTING CHAIRPERSON SERNA: Tim Carmichael. I'm
15 going to apologize in advance. Following Mr. Carmichael
16 will be Wafaa Aborashed.

17 MR. CARMICHAEL: Good afternoon, Supervisor
18 Serna, members of the Board. Tim Carmichael with the
19 California Natural Gas Vehicle Coalition.

20 First let me say this is a great effort that the
21 staff is taking on. It is really a challenging scope that
22 they have set out to do these tech assessments. Just the
23 slide presentations were dozens and dozens of pages at the
24 workshops, because it's so much information that they have
25 been going through and assessing.

1 I wanted to make two -- just a couple comments.
2 One on a slide that's in the presentation you saw today
3 and a couple points that weren't in that presentation.
4 The first is on the prospect for low NOx engines,
5 especially natural gas heavy-duty truck low NOx engines.
6 I'm personally and my members are very hopeful about this
7 prospect in the near term, but not quite as hopeful as the
8 staff. What we're hearing from the engine manufacturers
9 are we're going to see some of those engines in 2017 and
10 more in 2018 and 2019. So definitely within the bounds of
11 what the staff's slide said, but not -- we don't think on
12 the front end of that in this 2015 or 2016. There is a
13 lot of work going into developing those engines, and we do
14 believe they're coming this decade. But towards the end
15 of this decade.

16 Two points that I want to make about information
17 that came out in the workshops that was not included
18 today. I assume it's coming. But I want to flag it
19 because based on the conversation earlier, you may be
20 called upon to make some decisions on incentives or other
21 programs before these tech assessments are finalized.

22 Two issues. One, the Air Resources Board, along
23 with other agencies, South Coast AQMD and others,
24 supported in-use truck testing looking at trucks in the
25 field. Most of the testing has been done is on the bench.

1 But in-use truck testing or in-use vehicle testing is very
2 valuable. What they found was the diesel trucks and the
3 hybrid trucks are emitting more than anticipated in the
4 field, and the natural gas trucks are emitting less than
5 anticipated in the field. That's significant and
6 something to pay attention to going forward as you're
7 thinking about what this agency needs to be supporting.

8 The second point is there were slides showing the
9 time lines for the development phase of various
10 technologies. Again, focusing on heavy duty trucks and
11 heavier. And the staff's findings, at least initial
12 findings, were for hybrids, for battery electrics, for
13 fuel cells. We're looking at demonstration vehicles for
14 at least 2030, 2035. So many more years where there is a
15 lot of work to be done to develop those vehicles to make
16 them commercially viable.

17 Obviously, there's opportunities to act before
18 2035. And the seed I want to plant is natural gas trucks,
19 supporting natural gas trucks in the near-term supports
20 the pathway to lower NOx engines for trucks and to
21 renewable natural gas, which is one of the lowest carbon
22 fuels the Air Board has identified.

23 Thank you very much for your time. And happy
24 holidays.

25 ACTING CHAIRPERSON SERNA: Thank you.

1 Mr. Aborashed, and then next will be Jesse
2 Marquez.

3 MS. ABORASHED: Good afternoon. My name is Wafaa
4 Aborashed. I'm with the Bay Air Healthy 880 Communities
5 and CCFC.

6 ACTING CHAIRPERSON SERNA: How do you pronounce
7 your last name?

8 MS. ABORASHED: Aborashed. It's difficult, I
9 know.

10 So I'm really happy to be here. And I'm very
11 proud of the fact that in the last ten years we actually
12 moved maybe four feet or five feet. We still have a long
13 way to go to make sure that our fence line communities are
14 healthy.

15 I would like to echo Diane Bailey's message to
16 you. And I hope that you really look at those
17 opportunities that we, as environmentalists, have been
18 trying to help you get to where you are today. Ten years
19 is a long time, and I hope that I don't have to wait ten
20 more years to really have some healthy children in our
21 neighborhood.

22 I want to make sure that we talk about the
23 aviation industry. You've had a study that came from LAX,
24 and it told you exactly what the health impacts are. Just
25 the beginning of what we can actually look at the health

1 impacts that are impacting the fence line community
2 specifically.

3 Sure, LAX did the study. But in the Bay Area, we
4 have three international airports. So whatever you get
5 out of LAX times three, that's what's happening here in
6 the Bay Area. So I live on the fence line community here.
7 I grew up on the airport. My father had a flight school
8 there. So I'm very passion at aviation. But when it
9 comes to the goods movement and having this aviation in
10 there, we need to look at the impacts that are coming from
11 these airports times three.

12 So at this point, I feel like, you know, we need
13 more understanding specifically in San Leandro. We have a
14 Highway 880 that has gridlocks three or four times a day.
15 We are getting it from the aviation, from the freeways,
16 from the trucks, all of that is happening in our area
17 along the 880 corridor.

18 So I'd like you to look at the aviation industry
19 and see how much we can minimize the impact. We did the
20 goods movement. We know where the trucks are getting on
21 the right pace right now. You still have more that you
22 have to do. So right now, having you look at the aviation
23 industry is what I'm asking you to do. Thank you very
24 much.

25 ACTING CHAIRPERSON SERNA: Thank you.

1 Mr. Marquez. And following Mr. Marquez will be
2 Cynthia Cory.

3 MR. MARQUEZ: Good afternoon. Thank you for the
4 opportunity.

5 I'm Executive Director for the Coalition of a
6 Safe Environmental. And also a member of the California
7 Clean Freight Coalition, California Communities Against
8 Toxics, and the Sierra Club Harbor Vision Task Force.

9 We are one of the leading environmental justice
10 organizations researching and specializing in alternative
11 technologies. And those are the things I'm going to focus
12 on right now. Things that I'm going to mention are things
13 that your staff are not looking at, that we request that
14 they be included.

15 For example, what we seen so far failed to
16 include alternative technologies to capture ship
17 oceangoing vessel emissions. AMEX technology, advanced
18 maritime emissions control technology, which is a color
19 flyer I passed out that you all have, has already been
20 tested on over 50 ships at the port of Long Beach. It has
21 passed every CARB test protocol to date and there's only
22 one more left to go.

23 Yet, it's not being recommended in any EIR by any
24 port in the United States. It's been tested for six years
25 now, and we ask that this be included. They all also have

1 a sister technology called ALEX, advanced locomotive
2 emissions control system that has also been tested, but
3 yet BNSF railroad and UP are not utilizing this
4 technology, and they're not including it in any of their
5 future projects and expansions.

6 Whenever you reference NOx PM reductions at the
7 port, you must make it relevant to the public and the
8 decision makers. Stating there's been a reduction is one
9 thing. You have to state the truth, too. It's based on a
10 2000 year base line. 1999, 1998, and every year before
11 that are still polluted. And then just because there is
12 improvement in that category of air, remember we're only
13 talking PM2.5 and PM10. You have not conducted any health
14 impact assessment to show that there's been an improvement
15 in public health. There is no document right now that
16 exists that shows there is correlation proving that those
17 reductions are improving public health. And HIA is the
18 only assessment tool that can do that. The health
19 assessment cannot do that.

20 Also not included in your report are zero
21 emission freight transportation trains. Specifically,
22 like a Maglev train. There are three companies in the
23 United States who already have test demonstration tracks.
24 Yet, that's not included. One of the companies, American
25 Maglev Technologies, have offered to build a demonstration

1 track free at no cost to the Port of L.A. or Port of Long
2 Beach or to the public, yet they have refused to allow it
3 to happen. We asked that ARB step in. And when there are
4 offers of demonstration projects such as that, that then
5 you oversee that demonstration project. It does not have
6 to be done at a port because those container storage yards
7 that are off port property where it can be still applied
8 and tested. So we ask that you do do that.

9 We have another problem in that CARB -- ports
10 say, oh, a technology has not been certified. Vision
11 Motor Corp. classic drayage truck was certified by CARB
12 for sale in the state of California. Yet, the Port of
13 L.A. and Port of Long Beach refused to include or even
14 mention it in their environmental impact reports. We need
15 you to intervene and say once it's been certified by
16 CARB, yes, it's Mandatory for you to include it.

17 ACTING CHAIRPERSON SERNA: Thank you.

18 Cynthia Cory.

19 MS. CORY: Supervisor Serna and members, Cynthia
20 Cory, California Farm Bureau.

21 Good afternoon. I just want to take a few
22 minutes. I first want to thank Heather Arias for reaching
23 out to ag earlier this year and kind of approaching us
24 about the sustainable freight initiative and our
25 discussions. I was kind of surprised in September when

1 the concept paper came out and saw a little bit more
2 detail. There is a lot of things that seem feasible but a
3 lot of things that are very concerning.

4 I know today we're talking about the technology
5 assessment and the things that will be -- that we're doing
6 the assessment so they'll fit into the initiative. And
7 you've heard many folks here speaking about wanting to
8 move faster. I might be speaking from a different voice,
9 and I'm just saying take time, be deliberate, and do a
10 full analysis.

11 I think we all know that while we think about
12 what we're talking about here being just ports and rail
13 yards, I want -- and I know you know, especially the folks
14 from the valley that you don't get all of our wonderful
15 agricultural products off the farms and ranches onto your
16 plates without freight and without facilities. Our
17 almonds, our blackberries, our wine, our cheese, all those
18 things we all love and enjoy need freight and they need
19 facilities.

20 So while we might be thinking of ports and just
21 rail yards and large distribution centers, Heather would
22 not have reached out unless we're area a part of this. I
23 ask you to be deliberate and careful. We all lived
24 through the truck rule. You voted on it many, many times.
25 And let's just not have to relive that. Thanks very much.

1 ACTING CHAIRPERSON SERNA: Thank you.

2 Bill Magavern. Following Mr. Magavern will be
3 Sean Edgar.

4 MR. MAGAVERN: Good afternoon, Board members.
5 Bill Magavern with the Coalition for Clean Air and the
6 California Clean Air Freight Coalition.

7 I thought the staff report was accurate. And we
8 appreciate the outreach the staff have done, especially to
9 the communities most effected by freight transport. We
10 know that the burdens of freight transport are not
11 distributed equally. They fall very heavily on certain
12 communities that are almost all low income communities of
13 color.

14 We also know from the work that ARB and the air
15 districts have done on the vision for clean air that in
16 order to reach not only our greenhouse gas emission
17 targets, but the air quality standards, we need to get our
18 freight system through a very major transformation to zero
19 emission and near-zero emission equipment. And we know
20 that will be quite a challenge.

21 And this Board took an important step in January
22 by deciding to launch the sustainable freight strategy. A
23 lot of work has been done since then. But a lot more
24 needs to be done. And it really needs to come not just
25 from ARB, but from the administration as a whole and to

1 include the transportation agency and CalTrans and the
2 Energy Commission and Go Biz. And so we understand the
3 need for more integrated effort here.

4 We at Coalition for Clean Air are aware of a
5 number of small businesses, many of them home grown
6 California companies that are working on technology that
7 can reduce air pollution and greenhouse gas emissions
8 developing, purchasing, and operating these technologies.
9 And a lot of the people who own and work at these
10 businesses are taking big financial risks because they're
11 working on cutting edge technology. And we know them to
12 be personally and professionally dedicated to success.
13 And this is where your role is really important because
14 through adopting regulations and SIP commitments,
15 incentive funding and policy plans, ARB and the other
16 agencies will play a key role in determining whether these
17 businesses succeed and whether our most polluted
18 communities will have healthy air to breathe.

19 We know that zero and near-zero emission freight
20 technologies are evolving quickly. And with the right
21 support, advancements will continue and future
22 developments can assure that we'll be able to handle the
23 demands of nearly every step of the logistics, supply, and
24 distribution network with these advanced clean
25 technologies.

1 Finally, I want to emphasize the importance of
2 looking not just to the long term, but short term
3 measures, early action measures that will help to reduce
4 emissions very much including increased enforcement and
5 strong inspections and maintenance programs. And let's
6 not forget those vehicles in the 8,000 to 15,000 pound
7 category when we adopt those measures. Thank you very
8 much.

9 ACTING CHAIRPERSON SERNA: Thank you.

10 Sean Edgar. And following Mr. Edgar will be
11 Peter Okurowski.

12 MR. EDGAR: Supervisor Serna and Board members,
13 I'm Sean Edgar, the Director of Cleanfleets.net. To
14 borrow one of my favorite analogies baseball, it's déjà vu
15 all over again. Fourteen years ago when I first came in
16 front of the Board, the topic was the diesel risk
17 reduction plan. This effort that you're embarking upon
18 that staff has been very open and accessible to us feels a
19 lot like the development of that plan.

20 I was pleased to be involved in the truck and bus
21 regulation planning phase. We went through several
22 hearings about the last eight years, and now we're in the
23 implementation phase. So I have a few process comments,
24 but a few things I wouldn't want to lose sight of. First
25 of all, many fleets are struggling right now to implement

1 the truck and bus regulation. And obviously, that's going
2 to take long-term investments from them. They're making
3 decision as to the fuels that they'll be able to use based
4 on their needs. And we know that advanced technologies
5 significantly more expensive than the last trucks. So
6 some folks are just grappling with those decisions. And
7 we know that any major change is going to require a major
8 planning effort and also access to capital and the economy
9 will continue to guide that.

10 Having said that, a couple process-related
11 things. I'd like to give credit where credit is due to
12 your staff. We initially -- our group of member
13 companies, about 300 fleets running over 200,000 natural
14 gas vehicles. There is a little bit of concern we are
15 going to leap frog natural gas and go into batteries for
16 heavy-duty trucks. And we expressed that to staff and
17 staff clarified several things for us to our satisfaction.
18 So we're grateful to hear several times in today's
19 presentation that these advanced technologies really has
20 to be a business case for it and we also need a multi-fuel
21 approach. So we're grateful to hear that. Thank you very
22 much for staff for that.

23 We're also grateful to hear about fueling
24 infrastructure and realizing incentivizing may be needed
25 for that. Natural gas vehicles, it's a very heavy

1 investment. And there is nothing really to offset the
2 increased truck right now. There's some intermittent
3 incentives from the Energy Commission, and federally
4 there's discussion of some new incentives that are just
5 coming.

6 But most of the vehicles that have been purchased
7 over the last four or five years since the federal tax
8 credit disappeared have been done with the operators
9 stepping to the plate with an additional 30 to \$50,000 on
10 top of what the diesel truck costs would have been.

11 So advanced technologies is going to take
12 advanced planning, and it's going to take a significant
13 amount of capital. And I was grateful for staff to
14 realize there has to be a business case for the operators
15 of these cleaner vehicles. The folks that we work for
16 that operate 2,000 natural gas vehicles have cut their
17 teeth on a lot of the technology inspection maintenance
18 issues.

19 I'll just close by saying Merry Christmas to you
20 all. Thank you for initiating the process. I'm happy to
21 hear that staff is going to be coming out with more things
22 to look at in a transparent public process. Thank you for
23 your time.

24 ACTING CHAIRPERSON SERNA: Thank you.

25 Mr. Okurowski and Frank Gallo.

1 MR. OKUROWSKI: Thank you, Board.

2 Really quickly, my name is Peter Okurowski on
3 behalf of the Association of American Railroads. The
4 railroads have really appreciated the opportunity to work
5 with staff on the technology assessment and we're going to
6 continue to do so. And since the tech assessment is going
7 to support so much of the future discussions, we just
8 encourage staff to release that as soon as possible.
9 Thank you.

10 ACTING CHAIRPERSON SERNA: Thank you.

11 Frank Gallo. And then our last speaker will be
12 Humberto Lugo.

13 MR. GALLO: My name is Frank Gallo. I'm a member
14 of the Ditching Dirty Diesel Collaborative, which is also
15 part of the California Clean Freight Coalition.

16 I'm encouraged by the work that's being done on
17 the sustainable freight strategy and also the pursuing
18 zero emission vehicles for the freight sector.

19 I attended the presentation earlier when the
20 Board was discussing international coordination. And it
21 would be very helpful to see ARB's multi-jurisdictional
22 collaboration expanded to the level suggested by
23 Dr. Sperling earlier.

24 If I may, I have two examples of why ARB's
25 leadership is needed beyond providing guidance measures

1 that may be bypassed or ignored at the local level. The
2 first example involves the use of leaded aviation gas.
3 The industry's been given a pass of 32 years on this. And
4 the community's wondering how much longer we have to
5 suffer from this toxicity. It continues to be used in
6 piston-driven aircraft, despite extensive studies
7 demonstrating the toxicity levels. And although this may
8 not seem a major problem nationwide, it is of particular
9 concern for residents living near general aviation
10 municipal airports that have flight schools. The flight
11 schools fly a consistent pattern at low altitude over
12 homes, schools, and they practice endless takeoff and
13 landings. So what results is you have a disproportionate
14 impact on low income communities.

15 Someone earlier, Wafaa spoke earlier about the
16 LAX study, and I won't go into detail about that. But it
17 goes to show -- I want to tie that into the measures that
18 the Board is considering for airports and urge the Board
19 to look beyond the airports. The airports are doing
20 laudable work, and those measures are already in place at
21 LAX. And what I'm talking about is terminal power. So
22 the aircraft don't have to use auxiliary power for air
23 conditioning. They're using -- taxis that service the
24 airport are using hybrid vehicles, or CNG. What's missing
25 in the equation is the pressure on the aircraft

1 manufacturers.

2 And I've attended conferences and spoken with
3 Praton Whitney and General Electric engineers. They all
4 talked about the difficulty of achieving lower NOx
5 emissions and that pressure needs to be mounted up to
6 continue development in the -- for those engines because
7 they are very long lead times in aviation. We're talking
8 about 25 years or so before these reach the market,
9 involves testing, certification. I'll conclude. Thank
10 you.

11 ACTING CHAIRPERSON SERNA: Thank you.

12 Last speaker is up Humberto -- is it Lugo or
13 Martinez?

14 MR. MARTINEZ: Humberto Lugo Martinez. I'm from
15 Comite Comite Civico Del Valle in Imperial Valley and a
16 member of the Coalition for Clean Air.

17 And I'm here -- I was here earlier as well for
18 the SIP adoption on Imperial County. And I just want to
19 note that Imperial County continues to be a hot spot -- a
20 toxic hot spot according to New York Daily
21 CalEnviroScreen.

22 The analysis show that air quality has not
23 improved in Imperial County and remains a toxic hot spot
24 in some areas of the communities. Some areas of the
25 communities the quality of air has improved, but for

1 increased pollution emissions from freight we continue to
2 be burdened with the high rate of asthma and cancer.
3 Children in Imperial County are three times more likely to
4 be hospitalized compared to other regions in the state
5 according to California Department of Public Health.

6 We need to move forward with the sustainable
7 freight strategy in all of California. CARB should put
8 more or work together with Air Pollution Control Districts
9 in order to protect the public from all the harmful
10 effects of air pollution and maintain air quality
11 standards and implement effective programs that are
12 designed to provide administrative ease for those early
13 adopters of zero and near-zero emission trucks.

14 This progress should be developed in a way that
15 provides incentive to use technologies that meet all
16 state, federal, and county mandates, considering
17 environmental and economic impacts.

18 And one more thing is someone mentioned earlier I
19 think that enforcement on CARB all through the state
20 should be implemented statewide. I came up with the
21 thought simultaneously educate the truckers and the
22 companies to move forward with the sustainable freight.
23 Thank you.

24 ACTING CHAIRPERSON SERNA: Great. Thank you.

25 All right. That concludes our list of witnesses

1 on this item. Again, this is an informational item. I
2 think we have some Board members that may have questions
3 or comments. Ms. Berg, I don't know if you wanted to
4 start us out.

5 BOARD MEMBER BERG: Thank you, Supervisor Serna.

6 First, congratulations, staff. This was a
7 tremendous undertaking. I think I remember in the
8 comments in January as a few of us gulped thinking we
9 would be looking at sustainable freight, it is an
10 overwhelming task. And as we've heard from several
11 speakers who have acknowledged that from both sides, it's
12 not only overwhelming, it's absolutely needed for us to be
13 able to reach our air quality and greenhouse gas goals.

14 That said, I think what I'd like -- the points I
15 would like to make is -- and I think I made this point in
16 January. We need to set expectations. Expectations drive
17 whether people do get disappointed, whether they
18 understand what the process is going to look like. If
19 we're envisioning a future, then that future takes time to
20 do that.

21 And I would agree that there are near-term
22 actions that can be taken, but I also would submit that
23 not all near-term actions are going to be productive for
24 long-term actions. So there's always trade-offs and
25 always going to be lots of discussions.

1 What could help me on this particular assessment
2 is do we have a definition -- a written definition of zero
3 and near zero emission?

4 ASSISTANT DIVISION CHIEF SAX: We do in the
5 document we're going to be putting out have a definition
6 for that. We're talking about zero emission tailpipe
7 technology. We're talking about battery electric and fuel
8 cell vehicles. For near-zero, we're talking about trucks
9 that meet the lowest optional NOx standards, provide a 90
10 percent reduction of NOx in use, and that operate on
11 renewable fuels.

12 BOARD MEMBER BERG: On both of those definitions,
13 it's all tailpipe, none wheel to well?

14 ASSISTANT DIVISION CHIEF SAX: Well, when we look
15 at zero emission vehicles, we obviously look at both
16 tailpipe and well to wheel emissions. And we didn't spend
17 much time talking about that today. But there are
18 upstream emissions associated with zero emission
19 technologies. Battery and fuel cell emissions benefits
20 themselves are more efficient than the combustion engines.
21 So they have lower well to wheel emissions than combustion
22 technologies. But all of the technologies, whether zero
23 or near zero, achieve their greatest greenhouse gas
24 reductions when operated on renewable fuels, electricity,
25 hydrogen, natural gas, or diesel.

1 BOARD MEMBER BERG: It does seem to me -- and
2 this is probably going to be a philosophical
3 conversation -- but when we have different criteria or
4 different methodology for measuring things, then it feels
5 to me that we might be picking winners and losers.

6 So I think it's important that if we need to have
7 a conversation on definitions that we do that up front and
8 make sure that it's a level playing field across the
9 board, would be my observation on that.

10 Again, congratulations.

11 The other thing I would just mention is that --
12 and we did have this speaker brought this up. When we're
13 looking at time frames on some of this technology, it is a
14 few years out. I mean, the technology that really would
15 be game changers. Game-changing technology. Are we
16 really looking at about 2030?

17 ASSISTANT DIVISION CHIEF SAX: It really is a
18 question of the types of investments that we make. So for
19 example, you know, the ZEV mandate has been really
20 successful in leading to the development of battery and
21 fuel cell technologies that allow us to be able to talk
22 about those in the heavy-duty sector.

23 And like we said, there are some zero emission
24 technologies that are commercialized today, primarily
25 ground support equipment and forklifts and some lighter

1 applications like that.

2 The speed at which we're able to bring larger
3 zero emission vehicles to market is going to be a function
4 of the investments that we make and how we leverage those
5 investments across not just what we do, but what the
6 Department of Energy does, what the South Coast Air
7 Quality Management District does and others.

8 So we are optimistic, I think. But it's hard to
9 nail down a time frame because it's so dependent on how we
10 do our job.

11 BOARD MEMBER BERG: On the ones that are
12 commercially available, forklifts, things like the gantry
13 cranes, do we have a feeling for the percent of the market
14 they currently have? Like, what percent of the market do
15 electric forklifts have?

16 ASSISTANT DIVISION CHIEF SAX: Electric forklifts
17 have a fairly substantial part of the market. But fuel
18 cell forklifts, for example, are a very small part of the
19 market right now.

20 Most of these technologies we're talking about
21 are very, very small part of the market. Part of our job
22 as we look at applying the incentives is to try to find
23 ways to expand those markets.

24 So that's particularly important to keep these
25 companies and develop these technologies in business,

1 because often when they make the investments to develop
2 the technologies, then there is a lag time between when
3 they're offering the technologies and when people pick
4 these technologies up. It's particularly important to
5 help those companies through that transitional period and
6 markets develop. Otherwise, you get a lot of stranded
7 investments in companies that hopefully later get picked
8 up later. But how that -- you know, how those
9 technologies roll out is often a challenge, I guess.

10 BOARD MEMBER BERG: So Mr. Corey, as we look at
11 our next item is on incentives, how can information like
12 today and from some of the research that is being done by
13 various departments, like Cynthia Marvin's, how can we
14 utilize this to help frame up our incentive programs?

15 DEPUTY EXECUTIVE OFFICER COREY: Ms. Berg, in
16 fact, the way we're looking at the technology assessment
17 is partly through that lens in terms of bisector, where
18 the individual technologies sectors stand with respect to
19 the characterization of zero emissions or near zero.
20 What's the time frame? What's the costs? What are the
21 potential levers to ultimately get us there?

22 That lever question to me is what roll is
23 incentives going to have? What are the magnitude of those
24 incentives?

25 One of the things, in fact, in the 14-15 AQIP

1 Plan, the Board when it considered the GGRF, the proceeds
2 from cap and trade dollars, part of that allocation of
3 those dollars included the recognition of the need for
4 demonstration and pilot-scale projects with respect to the
5 heavy-duty sector. So not only was the light-duty
6 electrification under CVRP supported, there was about 85
7 million directive heavy-duty demonstration and pilot level
8 applications.

9 The technology assessment, I see those things
10 married in terms of providing some guidelines, some
11 priorities, and also recognizing when we discussed the
12 budget last year with the Board, there was recognition
13 that the need on the heavy-duty side, thinking about NOx
14 emissions, diesel PM emissions, and GHGs -- because the
15 sector we're talking about is the source of all those. In
16 fact, transportation represents 40 percent of GHG
17 emissions, 80 percent of NOx, 95 percent diesel PM. There
18 is a recognition of this is a start. And our expectation,
19 even when we signaled that budget, was that as additional
20 cap and trade proceeds, as one source became available, we
21 saw a much greater need on the heavy-duty sector side. We
22 see a marrying up with this technology assessment and
23 helping it inform how to direct those dollars to really
24 move us forward. And the sectors that are going to be
25 significant with respect to NOx and diesel PM and GHG

1 reduction

2 BOARD MEMBER BERG: Thank you very much.

3 ACTING CHAIRPERSON SERNA: Mayor Mitchell, Dr.
4 Balmes, and Supervisor Professor Sperling.

5 BOARD MEMBER MITCHELL: Thank you for the
6 presentation. It's very good to see where you, are how
7 far we've come, and what remains to be done.

8 I've attended a number of the meetings in
9 Southern California on the sustainable freight strategy,
10 and we have been asked in the course of those meetings
11 what does sustainable mean. And it means to us zero
12 emissions.

13 We recognize that there are challenges in getting
14 there. And in particular, challenges with the heavy-duty
15 sector. But there are a number of programs underway,
16 demonstration programs, and so there is some light on the
17 horizon for getting there.

18 I think the question that we're asking is how far
19 out is that. And some of that is here now. It's just how
20 do we get it into the market and commercialized into the
21 market. And here we have the problem that Ms. Berg
22 identified. We need to move forward so we have adaptation
23 of those technologies in the market. But at the same
24 time, we don't want -- we want to avoid the stranded
25 investments that are happening with the programs we now

1 have in place.

2 So I think that it's important for us to give the
3 most accurate signals that we can give to the market so
4 they know what to expect in the future and they can plan
5 for that. So that gets to what is available now in the
6 near term that we should be pushing, incentivizing, and
7 what is it that we can do long-term. And that will
8 probably be some of that heavy-duty machinery that we can
9 start planning for now so we get that -- our people
10 adopting that and we can see -- make the changes that are
11 needed so that that operates in the way we expect it to
12 operate.

13 I think that for the South Coast region, this
14 zero emission freight movement is incredibly important
15 because we have, as everybody recognizes, almost
16 insurmountable challenges to reduce our NOx emissions and
17 ozone emissions. Those targets are 2023 and 2032.

18 But the sustainable freight strategy is a
19 strategy that is really important to the whole state.
20 Certainly important in the Bay Area and San Diego, in the
21 Central Valley where we're moving a lot of trucks through
22 the Central Valley. It's important everywhere for
23 reducing emissions statewide.

24 And what that really means, the bottom line on
25 that, is it's really to reduce the health impacts that

1 these emissions have on our population. And it's not
2 something that we can ignore.

3 You heard the testimony of the young woman from
4 Long Beach. That's a sorry I hear a lot because that's in
5 my district. But that came from Long Beach, but it exists
6 all over the state. And the reason we sit up here is to
7 improve the health of our population. And we must never
8 forget that's why we are here. And all of these
9 regulatory measures and incentives that we put in place
10 are to strive for the best outcomes that we can reach and
11 to make sure that we're ensuring the health of our
12 population.

13 So I want to thank in particular Cynthia Marvin,
14 who I have seen in operation. And she is terrific. And
15 all of our staff who has worked on this, on these
16 programs, and has traveled around the state to talk with
17 people, to do some public outreach, to hear from
18 stakeholders and to embrace their concerns and what the
19 issues are that they face because we need to help them
20 with overcoming hurdles as we get further along down this
21 road to clean freight, zero emission freight movement. So
22 we'll look forward to the report that comes out in April
23 and encourage you to keep talking to our stakeholders as
24 we move down that road. Thank you.

25 ACTING CHAIRPERSON SERNA: Supervisor Gioia.

1 BOARD MEMBER GIOIA: Thanks again for the
2 presentation.

3 And I do want to get back to the understanding
4 the alignment and time frame that I asked about earlier,
5 because they're parallel tracks here, this study and then
6 the development of the sustainable freight strategy. And
7 it seems that those elements and -- obviously, the
8 whole -- all elements of the study are really important.
9 But those elements that are needed as we think through the
10 freight strategy obviously should be done sooner. You
11 talked about this being finished in April. Is that -- did
12 I hear you correctly?

13 DIVISION CHIEF MARVIN: I was talking about
14 putting out the -- I'll call it the visioning document in
15 the March time frame for Board discussion in April.

16 BOARD MEMBER GIOIA: The visioning document,
17 meaning -- just so I understand. What's different about
18 that than the final sort of result of some of the
19 assessments here? It's going to be an ongoing multi-year
20 effort; right?

21 DIVISION CHIEF MARVIN: So we have a number of
22 pieces in play here. We have the tech assessments that
23 are providing the foundational knowledge about what is
24 there today and informing our opinion where the data stop
25 about what may be possible in the future when what are

1 those challenges going to be. What support do we need
2 some our fellow agencies on the transportation and the
3 energy side.

4 BOARD MEMBER GIOIA: Refresh my memory again of
5 when we're expecting to have sort of the next iteration
6 under the new time schedule for the freight strategy.

7 DIVISION CHIEF MARVIN: So we're talking about
8 two different documents. The first document, which is
9 the -- really that vision, the options to get to zero and
10 near zero, the levers, regulatory and incentive, is March
11 with the April Board discussion. The full plan is later
12 in 2015 integrated with the transportation, the energy,
13 and the business considerations that are really governed
14 or led by other State agencies.

15 BOARD MEMBER GIOIA: I think I'm understanding
16 now. Thanks.

17 DIVISION CHIEF MARVIN: All of that feeds into
18 the SIPs of course, which will be moving forward later
19 this year.

20 BOARD MEMBER GIOIA: Thanks.

21 ACTING CHAIRPERSON SERNA: Dr. Balmes.

22 BOARD MEMBER BALMES: Thank you. I have just two
23 short comments.

24 First of all, I wanted to endorse the request
25 from several of the witnesses about a careful assessment

1 of airport contribution to freight-related, goods-movement
2 related emissions. I think we've done a fabulous job with
3 the ports. And we do the best we can with railyards,
4 given the fact that we can't really regulate the
5 locomotives that go between railyards. But I think we
6 haven't perhaps spent as much time on airports as we
7 might. So I endorse that.

8 And then the second thing is -- and correct me if
9 I'm wrong. At least one of the witnesses requested
10 release of a new health impact assessment for the freight
11 sector, which I think is going to be part of the clean
12 freight report. I realize there are reasons to delay
13 getting the final report out, not the least of which is
14 getting buy-in from other State agencies and perhaps the
15 Governor's office.

16 But maybe the health impact assessment is ready
17 that could be an early action item that we could release.
18 I've warned the environmental justice folks that there may
19 be improvements with regard to health risks because we
20 have improved the quality of air around ports, for
21 example, and the diesel truck rule. But if that HII is
22 ready, I think that's something we could release earlier
23 than the full report. But I don't know if I'm speaking
24 out of turn here.

25 DIVISION CHIEF MARVIN: Perhaps I can clarify.

1 Almost a year ago, the California Clean Air Freight
2 Coalition had asked us for an update to the health impact
3 statistics that we published back in 2006. So that was
4 the estimate of the number of premature deaths,
5 hospitalizations that are associated with exposure to
6 pollution from freight. We committed to do that. We're
7 almost done with that effort. And we expect that the
8 March document will have an updated freight inventory and
9 health statistics. I just want to note -- and I'm saying
10 this to the expert here, that that is not a health impact
11 assessment as that term is typically applied.

12 BOARD MEMBER BALMES: I'll accept that
13 clarification, and I'm glad that there will be something
14 released hopefully in March.

15 ACTING CHAIRPERSON SERNA: Professor Sperling.

16 BOARD MEMBER SPERLING: Thank you.

17 Let me offer some suggestions about how to
18 organize this in a way that's compelling. And that is
19 what we're talking about here now is a whole bunch of
20 technologies that cost a whole bunch of money that we're
21 going to do somewhere and we're going to find some
22 incentive moneys to pay for.

23 We need a little more of a framework, a
24 structure. So let me use just an analogy. So on the
25 passenger vehicle side, we've got vehicles standards. We

1 have -- for both criteria pollutants and greenhouse gases.
2 Same thing on the truck side.

3 What we have on the passenger side for the
4 advanced technologies, which is what we're really talking
5 about here, is a zero emission vehicle mandate. And that
6 is targeted at a small number of major manufacturers that
7 have deep pockets. We're basically getting them to bear
8 most of the cost of launching this new technology and
9 industry.

10 On the freight side, we don't have that
11 situation. We have a lot more different types of
12 products. We have a lot more different companies. So we
13 need some way of getting our heads around this to figure
14 out how are we going to do this. Because it's not just we
15 are not going to come up with a pile of money that's going
16 to make this happen. This pile of money would have to be
17 so large that we'll have to get very creative, rob banks
18 or something.

19 So there's two parts here. One is this process.
20 We need to think this through a little better in terms of
21 how do we create a framework to get these new technologies
22 out there, even as pilot and demonstration projects -- you
23 know, as a pilot and demonstration, okay, we can do that
24 relatively low cost. But if we think about that, we're
25 talking about a 20-year time frame before we really have

1 anything. I'm not sure that's exactly how we want to be
2 thinking about this.

3 A lot of this technology is it's not a question
4 of the technology being doable or commercializable. It's
5 more which products make sense and which applications and
6 how do we make that happen. So I think while we talk
7 about pilots and demonstrations, we have to think about
8 that pretty clearly. We could helter skelter and have it
9 all over the place. It won't be very strategic and it
10 won't be very efficient.

11 So I think we need to focus on which technologies
12 are compelling and which applications. How are we going
13 to make that happen? Who's going to bear the cost?

14 And one of the things I'd like to see is some
15 kind of cost analysis of what is this cost premium that
16 we're talking about to get to this, you know, vision that
17 we have. Not the full vision, but you know, kind of the
18 corresponding to the 2025 ZEV mandate. Think about it
19 that way. How do we get to five or ten percent market
20 penetration, which is when the market can hopefully
21 possibly get a little more traction, so to speak.

22 And part of it is as the comment was made
23 earlier, we can't go it alone either. We have to
24 collaborate much more, interact much more with groups that
25 are going to be buying this technology, creating the

1 market, the demand. And so it's both on a demand side and
2 the supply side.

3 So I know this had a number of comments, but
4 we've been spending a lot of time on this. A lot of
5 people -- I shouldn't say we. A lot of people have been
6 spending a lot of time on this. Just it's clear from all
7 the testimony. And I think it's time to get more focused
8 and come out with a real plan, which is -- I understand
9 politics and everything else. But there's got to be some
10 leadership. We have to take some chance and put some
11 things out on the table.

12 ACTING CHAIRPERSON SERNA: Mr. De La Torre.

13 BOARD MEMBER DE LA TORRE: Thank you. I
14 appreciate all of the effort that's gone into the
15 sustainable freight initiative work throughout the year.
16 But I need to echo what some of the folks said today. I'm
17 very disappointed that at the end of this year we're not
18 there. We don't have a strawman to even react to. This
19 is something that was a priority for the year. And to get
20 to the end of the year and not even have something that we
21 can react to, I'm just very disappointed in.

22 So going forward, there cannot be a repetition of
23 this thing slipping more and more and more. It just
24 cannot happen. There's so much riding on this for me
25 parochially down in southern California, but for the

1 state. This is really putting a marker down. And it's
2 going to be tough. And people are going to be opposing it
3 and angry, I'm sure, at some of the proposals and some of
4 the ideas. And we'll get the usual pushback. But that's
5 everything we do around here. And so I really want to
6 emphasize how important it is that we put this thing
7 together and have that dialogue among ourselves with the
8 public and lead in this area, because people are expecting
9 it. Thank you.

10 ACTING CHAIRPERSON SERNA: I would like to put a
11 slightly finer point on that last remark, because I don't
12 disagree with it. I think it's well placed. And it's not
13 a condemnation of staff, by any means.

14 But to me, as a former project manager, there is
15 a reason why you have budgets and why you have schedules.
16 It's to kind of have a constant feedback loop about
17 progress. And I, quite frankly, haven't felt about that
18 way about the sustainable freight strategy to date.

19 I know we're talking about just one assessment
20 today. But what I might suggest -- and I'll put it out
21 there. I'm not going to get in the weeds with staff about
22 it. But moving forward, perhaps something as simple as a
23 Gantt chart that tells us what's left in front of us,
24 measured in weeks hopefully -- maybe that's the
25 appropriate measure of time moving forward -- about what

1 needs to happen by when. So that as Ms. Berg pointed out
2 earlier at the beginning of our comments, that
3 expectations are not only set for this Board and certainly
4 for staff, but equally if not more important for the
5 public and stakeholders.

6 Because this is not the first time we've heard
7 the concern expressed about why is it taking so long. So
8 I would just again put that out there. And maybe it's not
9 a Gantt chart. Maybe it's some other kind of scheduling
10 mechanism. But something that tells us what is in front
11 of us and when we can all expect that we're going to hit
12 some milestones. Because again, I just haven't felt like
13 I've been able to refer to something tangible that tells
14 us that. And so those would be my comments.

15 BOARD MEMBER SPERLING: I think that's exactly
16 right. That will provide the discipline to focus on what
17 don't we know that we do need to know and be able to get a
18 better grasp. This is just on the technology side. We
19 haven't even talked about the rest of the freight system,
20 which really gives me a headache thinking about it.

21 DEPUTY EXECUTIVE OFFICER COREY: Two follow up
22 comments. One, the Chair's comment about milestones, we
23 understand. We get the discussion happened. I actually
24 think that will be helpful. That is something we have
25 done internally, but I think from transparency standpoint,

1 giving something out in terms of the milestones that will
2 lead us to that report back to the Board is something
3 we'll work on.

4 I have a follow-up request actually. It's some
5 of the observations you made, Professor Sperling. It
6 would be very useful --

7 BOARD MEMBER SPERLING: You're going to tell me
8 what to do now.

9 DEPUTY EXECUTIVE OFFICER COREY: I was going to
10 look to the Chair to give you a homework assignment to
11 work with us going forward. I think as you pointed out,
12 technology is an aspect of what we're talking about. But
13 it's much broader than that. There's logistical. There's
14 mode shift related issues. There's other consultants we
15 need to bring in. The ability to consult with you on a
16 periodic basis going forward will be very helpful.

17 BOARD MEMBER SPERLING: Be happy to.

18 ACTING CHAIRPERSON SERNA: On that subject, I
19 would certainly agree with what Professor Sperling had to
20 say about technology and kind of the ambiguous nature of
21 it and the context of the sustainable freight strategy.

22 I can tell you having spoken with some
23 stakeholders recently, that seems to be a common almost
24 reflexive reaction by the freight stakeholders is that not
25 only is there not a market for these zero, near-zero

1 emission technologies, the technology they're telling me
2 does not exist. So that's a problem. And if it doesn't
3 exist, then again I think we need to understand if it
4 doesn't exist today, there's other SIP says, is it by
5 2030? When can we kind of collectively understand that it
6 either is going to be in the market at some point in the
7 near future or not. So again, I just would like to
8 underscore what Professor Sperling has said in that
9 regard.

10 ACTING CHAIRPERSON SERNA: Supervisor Gioia.

11 BOARD MEMBER GIOIA: Given that there is a fair
12 amount of cap and trade funding for clean transportation,
13 which a lot of that is obviously for the freight system
14 for clean freight, can you talk more about how the timing
15 again of decisions with regard to the cap and trade
16 revenues for this fiscal year and next fiscal year, which
17 we would anticipate being similar amount for this
18 category.

19 DIVISION CHIEF WHITE: I would be happy to.

20 One thing I wanted to add to Professor Sperling's
21 remarks is what the Board and what we presented today was
22 a high level overview. I think many of the questions you
23 had in terms of when our technologies going to be
24 available, what is their incremental cost, where are they
25 going to be appropriate, where do we see where are there

1 gaps in terms of moving technologies forward. When we do
2 the detailed sector-specific reports that we'll release
3 early next year, I think a lot of those questions and a
4 lot of that framework, as you characterize it, should
5 start to come out and develop.

6 So I think that that will really help inform both
7 the freight strategy work that Cynthia's group will be
8 doing. And importantly, to Supervisor Gioia's question,
9 how we decide and how we propose to invest the upcoming
10 cap and trade funding as well. So that plan we'll be
11 taking to you in June for the fiscal year 15-16 funding
12 plan. And we are optimistic that we'll have a similar
13 amount of funding available to us next year as we did this
14 year.

15 So certainly investing in the types of technology
16 we talked about today for both demonstration and
17 deployment --

18 BOARD MEMBER GIOIA: It's all about aligning
19 these different efforts. And the sooner we can get the
20 sustainable freight strategy done, the more we can have a
21 clearer idea of how we want to make our cap and trade
22 investments, right. So it helps guide us in our decision
23 making.

24 DIVISION CHIEF WHITE: Agreed. As I think
25 consistent with as we prioritize freight investments in

1 this year's plan, we'll look to repeat that next year.
2 Because there are many technologies that as you heard
3 today are available and we can continue to invest in
4 deployments of those. And there are many that we see are
5 nearly commercialized or early in commercialization stages
6 where investments will help grow those markets moving
7 forward.

8 So I don't think that the completion of the
9 technology assessments is going to be limiting in terms of
10 identifying, especially for some near-term investments
11 that we can make on the upcoming fiscal year where we
12 expect those investments to pay significant benefits.

13 ACTING CHAIRPERSON SERNA: Okay. Again, this was
14 an informational item. Appreciate staff's hard work on
15 this.

16 Next is an update and report to the Board on the
17 joint Air Resources Board-California Air Pollution Control
18 Officers' Association Assembly Bill 8 Carl Moyer Program
19 Evaluation. And I'm going to ask Mr. Corey to introduce
20 the item once he has all his staff assembled.

21 DEPUTY EXECUTIVE OFFICER COREY: Thank you,
22 Chairman. I'll start while they're getting positioned.
23 They should be ready by a time I'm done.

24 Carl Moyer program is an incentive program that
25 produces credible emission reductions for the State

1 Implementation Plans. The Carl Moyer Program began in
2 1998 and has seen many subsequent legislative expansions
3 over the years, including the addition of AB 923 in 2004.
4 These programs played a critical role in cleaning up
5 California's vehicles and equipment.

6 In 2013, AB 8 was reauthorized, the collection
7 reauthorized the collection of fees, including some that
8 support the Carl Moyer and AB 923 programs and directed
9 ARB to collaborate with air districts to evaluate the
10 goals of the Carl Moyer program, including opportunities
11 for improvements.

12 As we reported to you in July, in implementing
13 the provisions of AB 8, staff has worked in close
14 cooperation with our air district partners to conduct the
15 evaluation of the Carl Moyer program and AB 923 receiving
16 valuable input from stakeholders all along the way.

17 ARB staff would like to acknowledge CAPCOA for
18 their exceptional efforts in partnering with ARB on this
19 project.

20 And here at the table with us -- I'm going to
21 confirm -- is we have CAPCOA's President Alan Abbs, who is
22 the Air Pollution Control Officer for Tehama County.
23 He'll also say a few words after the staff presentation.

24 I'd also like to extend a personal appreciation
25 and that of the agency to all the participants in the

1 Incentive Program Advisory Group, and especially Board
2 Member Sandra Berg for her continued leadership on this
3 critical program.

4 I'll now turn the presentation over to Jennifer
5 Kozumplik representing the Mobile Source Control Division
6 who will provide the report. Jennifer.

7 (Thereupon an overhead presentation was
8 presented as follows.)

9 AIR POLLUTION SPECIALIST KOZUMPLIK: Thank you,
10 Mr. Corey.

11 Good afternoon, members of the Board.

12 Assembly Bill 8 required the Air Resources Board
13 in consultation with the local air districts to evaluate
14 the Carl Moyer program's long-term policies and goals. In
15 July of this year, staff presented a preliminary update on
16 our progress. At that hearing the Board requested a
17 subsequent update on this effort. Today's presentation is
18 in response to that request and describes the concepts for
19 statutory changes that have been collaboratively developed
20 by ARB and CAPCOA, called the air agencies for the
21 purposes of this presentation.

22 --o0o--

23 AIR POLLUTION SPECIALIST KOZUMPLIK: I'll begin
24 with some background on Carl Moyer and related local
25 programs funded by Assembly Bill 923 and our

1 accomplishments, then describe steps taken to evaluate the
2 programs, and conclude by describing the resulting
3 concepts for enhancement. Per the Board's direction from
4 this past July, I would also note that staff issued a
5 report this week providing additional detail on the
6 elements of today's presentation.

7 --o0o--

8 AIR POLLUTION SPECIALIST KOZUMPLIK: The Carl
9 Moyer and AB 923 incentive programs provide funding to
10 clean up a wide variety of equipment, including
11 locomotives, trucks, construction, and agricultural
12 equipment, marine vessels, and school buses. As I'll
13 describe, these programs complement one another and
14 evaluation of the potential changes to Moyer must take
15 into account the effect on AB 923 as well.

16 --o0o--

17 AIR POLLUTION SPECIALIST KOZUMPLIK: Moyer is
18 implemented through a partnership between ARB and every
19 air district in the state. Even the smallest districts
20 are eligible to receive funding every year. Projects must
21 provide surplus emission reductions that could be credited
22 to the State Implementation Plan and must fall below a
23 prescribed cost effectiveness cap.

24 The program has an annual budget of \$69 million
25 and is funded through a six dollar new vehicle smog

1 abatement fee and a 75 cent fee on the sale of new tires.
2 In addition, districts taking more than a minimum must
3 provide match funding, which adds approximately \$8 million
4 annually.

5 --o0o--

6 AIR POLLUTION SPECIALIST KOZUMPLIK: This funding
7 is used for the purchase of cleaner than required engines
8 and equipment. This means early and/or beyond what is
9 required by any regulation. Funding levels are based on
10 reductions of oxides of nitrogen, reactive organic gases,
11 and particulate matter. Implementation is the
12 responsibility of the air districts, which solicit,
13 evaluate, select, fund, and monitor the projects in their
14 areas. ARB's role is to develop the guidelines,
15 protocols, and criteria for projects and cost
16 effectiveness.

17 --o0o--

18 AIR POLLUTION SPECIALIST KOZUMPLIK: Districts
19 also have the option of implementing a local two dollar
20 vehicle registration fee authorized by AB 923. With the
21 notable exception of Lake County, which is in attainment
22 with all local and federal ambient air quality standards,
23 all air districts have the ability to collect those fees,
24 although at the present time, only about half of the air
25 districts do so.

1 Air districts can chose to use AB 923 funds for
2 light-duty scrap, agricultural assistance, and lower
3 emission school bus programs projects, as well as for Carl
4 Moyer projects.

5 In many districts, these funds are the source of
6 their Moyer match. For this reason, AB 923 must be taken
7 into account when evaluating potential changes to Moyer.

8 --oOo--

9 AIR POLLUTION SPECIALIST KOZUMPLIK: It is also
10 important to consider that the program is guided by
11 statutory requirements as well as administrative
12 guidelines. Statute requires projects to meet a cost
13 effectiveness limit and to be surplus. Statute also
14 limits leveraging of funds and specifies which project
15 types are eligible.

16 Additionally, statute allows the program to pay
17 for reductions in NOx, ROG, and PM but restricts
18 considering other pollutants such as greenhouse gases.
19 The guidelines set forth how the cost effectiveness limit
20 is adjusted for inflation. They also establish how
21 surplus is determined and the eligibility of projects.

22 Over the years, the Board has modified the
23 guidelines numerous times to reflect advances in
24 technologies, the effect of changing regulations, and
25 changes in policy needs. However, ultimately statute has

1 established limits on what can be adjusted.

2 --o0o--

3 AIR POLLUTION SPECIALIST KOZUMPLIK: Overall, the
4 program has been very effective in the 16 years it has
5 been in existence. Over \$980 million in state and local
6 funding has cleaned up more than 46,000 engines.
7 Approximately 174,000 tons of NOx and ROG and 6400 tons of
8 PM have been reduced at an average cost effectiveness of
9 approximately \$10,000 per weighted ton. Staff estimates
10 the program helps avoid approximately 40 premature deaths
11 each year. Additional information in response to requests
12 in July from Board Members Sherriffs and Sperling is
13 provided in the report released by staff earlier this
14 week.

15 --o0o--

16 AIR POLLUTION SPECIALIST KOZUMPLIK: As we've
17 seen, Carl Moyer has been successful. The passage and
18 signing of Assembly Bill 8 in 2013, which reauthorized
19 funding through 2023, validated this success.

20 --o0o--

21 AIR POLLUTION SPECIALIST KOZUMPLIK: AB 8
22 provides the opportunity to strengthen the program to
23 successfully meet current and future needs. Thus, AB 8
24 included a requirement for ARB in consultation with the
25 air districts to evaluate the policies and goals contained

1 in the Moyer program.

2 Partnering in this effort, ARB and CAPCOA
3 executed a Memorandum of Agreement to ensure coordination
4 and ensure that the end result reflects our mutual goals.
5 At that time, the agencies identified near-term
6 administrative changes that could be implemented under
7 current statute.

8 And earlier this year, the Board approved those
9 changes to the guidelines which streamlined program
10 implementation and expended the potential project pool for
11 project categories. For longer-term changes, we convened
12 meetings of the Incentives Program Advisory Group. The
13 IPAG meetings, which are open to the public, have long
14 been an essential forum to get suggestions and feedback
15 from all parties affected by the incentive programs.

16 These meetings draw industry, energy, government,
17 and environmental stakeholders. In July, after the first
18 IPAG meeting, the air agencies presented an update to the
19 Board. Since that time, a follow up IPAG meeting was held
20 to further refine how the program could be made even more
21 successful.

22 --o0o--

23 AIR POLLUTION SPECIALIST KOZUMPLIK: From the
24 beginning, the air agency and stakeholders all recognized
25 the program should remain true to its core and that any

1 changes should not shift the program's fundamental mission
2 to provide reductions in NOx, ROG, and PM, but rather
3 should build on our current successes to do more.

4 To better position the program for the future,
5 what were called five pillars for change were identified.
6 These pillars cover many aspects of the program, including
7 cost effectiveness, greenhouse gas, leveraging funding
8 from multiple sources, expanding project types, and
9 streamlining for greater efficiency.

10 --o0o--

11 AIR POLLUTION SPECIALIST KOZUMPLIK: With these
12 five pillars, the air agencies have developed
13 recommendations for legislative enhancements which I will
14 now describe.

15 --o0o--

16 AIR POLLUTION SPECIALIST KOZUMPLIK: The first
17 item is the cost effectiveness limit. In 2004, the
18 statute established the current cost effectiveness limit
19 at \$13,600 per ton with annual adjustments for inflation,
20 raising it to 17,720 today.

21 The program's overall cost effectiveness is about
22 \$10,000 per ton. While that is significantly below the
23 current limit, the air agencies believe that this only
24 tells part of the story. Changes in the cost of emission
25 controls have outpaced inflation. Additionally, as in-use

1 fleet rules are implemented, there are fewer opportunities
2 for surplus reductions, while at the same time there is
3 increased interest for funding.

4 As technologies get cleaner, they often result in
5 only a small absolute emission reduction, which limits the
6 amount of meaningful funding Moyer can provide. One
7 example is a truck certified to the optional low NOx
8 standard. Under the current limit, an optional low NOx
9 truck would get the most only \$5,000 more than a
10 conventional diesel truck, even though the purchase price
11 can be as much as \$50,000 more. This presents a barrier
12 to incentivizing the significantly cleaner technologies
13 needed to meet the future air quality and climate targets.

14 --o0o--

15 AIR POLLUTION SPECIALIST KOZUMPLIK: The second
16 critical enhancement is to recognize and encourage the
17 reduction of greenhouse gases. In 1988, when the program
18 was first developed, the state had not formed clear
19 climate change goals. Since that time, the need to
20 coordinate GHG reductions with other programs has been
21 become apparent.

22 Earlier this year, the AB 32 Scoping Plan update
23 specifically identified the need to leverage funds to
24 foster greater reductions. Although many Moyer projects
25 have resulted in GHG co-benefits, particularly projects

1 such as shore power and agricultural pump electrification,
2 the program cannot provide an additional incentive for
3 those projects that reduce both GHG and criteria
4 pollutants.

5 --o0o--

6 --o0o--

7 AIR POLLUTION SPECIALIST KOZUMPLIK: As we
8 integrated GHG into the program, there are several
9 considerations to keep in mind. First, we wanted to allow
10 districts to ability to prioritize GHG, but only if they
11 chose to do so.

12 Also, we must retain our core objective of
13 criteria pollutant reductions but still promote the
14 adoption of advanced technologies. The air agencies are
15 exploring options to accomplish this without including GHG
16 directly. This approach is being pursued because directly
17 including GHG could diminish the program's focus on
18 criteria and toxic reductions.

19 --o0o--

20 AIR POLLUTION SPECIALIST KOZUMPLIK: One strategy
21 being considered is a two-tiered cost effectiveness model.
22 The first tear would encompass the current range of
23 projects that provide NOx, ROG, and PM benefits only.

24 The second tier would be an additional
25 consideration for projects that also provide significant

1 GHG benefits. Under this scenario, the Board could set
2 the second tier cap and establish a minimum level of GHG
3 reductions sufficient to qualify. This mechanism would
4 also be used to extend additional funding to projects that
5 provide other ancillary benefits, such as those that
6 significantly reduce toxic exposure to sensitive
7 populations.

8 A major advantage to this concept is that it
9 retains the program's focus on criteria emission
10 reductions, while enabling greater options and maximizing
11 the ability to leverage GHG funding without the risk of
12 double counting benefits.

13 --o0o--

14 AIR POLLUTION SPECIALIST KOZUMPLIK: This brings
15 us to the third major concept for enhancement, leveraging.
16 That is, combining multiple funding sources to accomplish
17 program and project goals.

18 Current statute specifies that most other
19 governmental funding sources must be considered in cost
20 effectiveness and the allowable grant amount. This makes
21 the funding of larger longer-term projects difficult or
22 impossible for Moyer.

23 This is especially true in projects involving
24 locomotives and marine shore power. In some cases, it
25 forces an applicant to select one source of funds over

1 another, thereby foregoing the cleanest choice. Greater
2 allowance to leverage funds from multiple sources would
3 allow applicants to increase total incentive
4 opportunities, encourage the deployment of near-zero
5 technologies, simplify cofunding of large projects, and
6 increase the ability to fund public agency projects.

7 --o0o--

8 AIR POLLUTION SPECIALIST KOZUMPLIK: It's clear
9 that the leveraging restrictions in statute were
10 originally put in place to prevent situations like
11 overpayment or double counting of reductions. Safeguards
12 to prevent these possibilities must be retained. However,
13 because this is a complex issue and because available
14 funding and new technologies are always evolving, statute
15 should allow for the guidelines to specify leveraging of
16 funds.

17 --o0o--

18 AIR POLLUTION SPECIALIST KOZUMPLIK: The fourth
19 pillar or concept for enhancement is an expansion of
20 allowable project times. As we noted earlier, eligible
21 project types are described in the statute. Historically,
22 expansion of the list has occurred legislatively. For
23 example, the ability to fund truck replacements was added
24 after the program's inception and is now a major part of
25 Moyer, not only providing reductions, but also supporting

1 implementation of truck and bus rule.

2 Stakeholders have expressed particular interest
3 in funding new technologies and infrastructure to support
4 them. Early commercialized technologies need support to
5 build volume. Fueling infrastructure has been
6 specifically called out as a deployment challenge.

7 Therefore, although statute provides some flexibility for
8 ARB to add categories, greater clarity is needed on the
9 ability to use Moyer funding for infrastructure and
10 various other projects.

11 Broadening the types of projects available will
12 not only provide short-term emission reductions, but will
13 help the State and local air districts move towards zero
14 and near-zero technologies to provide longer-term
15 reductions.

16 --o0o--

17 AIR POLLUTION SPECIALIST KOZUMPLIK: The final
18 element is program streamlining. Throughout the review
19 process, the need to simplify implementation came up
20 frequently. Through implementation over the last 16
21 years, we have learned that some statutory requirements
22 can hamper effort to be efficient and responsive to
23 applicants. Among other items, we believe there is an
24 opportunity to harmonize spending targets, simplify
25 reallocation, and enhance district resources for

1 disadvantaged communities.

2 --o0o--

3 AIR POLLUTION SPECIALIST KOZUMPLIK: This
4 concludes the recommended legislative enhancements that
5 were identified. Enabling these enhancements will ensure
6 a successful future for the Moyer program.

7 Moving forward, CAPCOA in coordination with ARB
8 is actively developing statutory language to reflect the
9 five pillars discussed today for introduction in the
10 current legislative session. The air agency partners will
11 continue to work with stakeholders to build support for
12 these changes.

13 This completes my presentation. Now CAPCOA
14 President Alan Abbs will say a few words on behalf of
15 CAPCOA and the air districts.

16 ACTING CHAIRPERSON SERNA: Thank you.

17 CAPCOA PRESIDENT ABBS: Thanks, Jennifer and
18 members of the Board.

19 My name is Alan Abbs. I'm the Air Pollution
20 Control Officer for Tehema County and also the President
21 of the California Air Pollution Control Officers
22 Association.

23 Today's kind of a bittersweet day for me because
24 I wasn't an Air Pollution Control Officer for very long
25 when Jen Kozumpliz became my Moyer liaison. She helped me

1 out of a jam when we were first getting the program up to
2 speed again in Tehema County. We had given up our Moyer
3 funds for a couple years. Jen helped us get the program
4 back on track, and she followed me up to Lassen County
5 when I was doing some work up in Lassen County to get
6 their program back on track for some problems they're
7 running into.

8 So I think this is the last thing she's going to
9 be doing on behalf of the Moyer program before she goes to
10 Prop. 1B. I'm going to miss her and I think the lot of
11 the rural counties in California are going to miss the
12 work she's done. So thank you, Jen.

13 I'd also like to thank the rest of the Moyer
14 staff that have been an integral part of this
15 collaborative work that we've done over the past several
16 years. It started with the AB 8 legislation that passed
17 and then continued with the IPAG meetings. And for
18 starters, I'd like to recognize Board Member Berg for some
19 significant work that she did in facilitating the IPAG
20 meetings and working with the air districts, with ARB
21 staff, and the various stakeholders to come to some common
22 ground on how we are going to make this program better.
23 So thank you for all the work you put in to do that.

24 And also I'd like to thank the other Moyer staff,
25 Erik White for work that he's done, as well as Kathy

1 Garrison and also Scott Rowland. Their work with us has
2 been appreciated as well.

3 As you probably gathered from the presentation
4 that the Carl Moyer Program is one of those programs I
5 think that unites not only small rural air districts, but
6 the large air districts as well. It's probably the one
7 program we have here in California that we can all agree
8 on has provided some clear benefits across the state.
9 Whether it's doing work in the ports, in the urban cities,
10 or in my case helping out a prune farmer replacing a
11 40-year old tractor with a new Tier 3 or Tier 4 tractor
12 for his farm.

13 The program has been so successful that Tehema
14 County opted into the 923 program to get extra funds from
15 the DMV through vehicle registration so that we can
16 provide a match and get additional funding and make our
17 money go further in Tehema County. And the money that we
18 received that we didn't spend on Moyer matches, we've also
19 been using as Moyer for Moyer-like projects and increasing
20 the benefits that we get in Tehema County even more.

21 So this program yields tremendous benefits and
22 it's something that I think even our local residents that
23 don't like paying taxes can agree that it's providing
24 significant benefits for everyone.

25 So as I mentioned before, the IPAG process has

1 been a multi-year process. We got air districts, ARB
2 staff, stakeholders together, held various meetings. We
3 came up with these five pillars that Jen presented to the
4 Board. CAPCOA highly supports the work that's been done
5 on behalf of this, supports the five pillars that have
6 been presented. I believe we have some specific districts
7 that will be showing up to testify on various aspects of
8 that.

9 But I'm pleased with the progress that we've made
10 so far. And CAPCOA looks forward to continuing to work
11 with staff to improve the program and make it better.
12 Thanks.

13 ACTING CHAIRPERSON SERNA: Thank you. It's
14 obvious we're a dwindling bunch at this point. So I think
15 what I'd suggest is we take our one and only speaker
16 that's signed up Bonnie Holmes-Gen. Sorry to put you on
17 the spot.

18 MS. HOLMES-GEN: I thought I would stick around
19 to the end. Maybe everyone would want to hear about our
20 tremendous support for this program.

21 I always jump at the chance to talk about the AB
22 8 and 923 programs and how these investments have
23 dramatically reduced pollution and related health
24 emergencies. So I'm so proud these programs have been
25 implemented with broad stakeholder support and a clear

1 focus on health and air quality benefits.

2 And I want to also thank Board Member Berg for
3 her leadership over the past few years. It's been so
4 important bringing people together and the relationship
5 between the air districts and the ARB in making this
6 program work successfully has been so important. And we
7 support -- I basically wanted to say we support the
8 program, this program review process, and these pillars
9 for changes that have been brought forward.

10 The program has evolved a lot over the life of
11 this program and important ways in moving beyond NOx to PM
12 and now it's moving forward to embrace greenhouse gas.
13 This is so important, this alignment with the overall
14 focus to move forward and look to zero emission and to
15 achieve our long-term greenhouse gas goals.

16 We wanted to say a couple quick things. Number
17 one, we really appreciate the leadership of ARB and the
18 districts.

19 Number two, we'll be working with you in this
20 current legislative session as we work on ironing out the
21 details here.

22 Did want to suggest that there is an important
23 piece here that needs to happen, an outreach and education
24 piece with the Legislature to help them understand why
25 these changes need to be made, how they will heighten the

1 effectiveness and the ability to maximize our short- and
2 long-term benefits and how we've been thinking about how
3 we can better coordinate all these pots of funding,
4 because there is a lot of talk about all this money that's
5 out there. We need the some help. Everyone understands
6 it's not a lot of money. It's actually a little money.
7 But we have figured out how to better coordinate and
8 leverage it to maximize the benefits to the state and to
9 communities that are breathing dirty air.

10 Do want to mention the point about the synergy
11 between the incentive funding and the sustainable freight
12 program. That was a great discussion. I want to make
13 sure we're using this funding as much as we can to help
14 push those small scale demonstration projects and keep us
15 moving forward.

16 And also want to mention school buses. That's
17 going to important focus of our Lung Association for a
18 long time. I just want to make sure we're looking at what
19 more needs to be done on school bus upgrades and
20 replacements and how we can channel these funds in that
21 direction. Overall, this is a key element to coordinate
22 our work on smog, soot, and climate. And we appreciate
23 your hard work on this. Thanks.

24 ACTING CHAIRPERSON SERNA: Thank you, Bonnie.

25 Questions of staff? Supervisor Gioia.

1 BOARD MEMBER GIOIA: So under the sort of
2 expanded program, districts can opt into prioritizing
3 projects with GHG benefits if they wish.

4 Just as a -- I'm not familiar. Can a district
5 prioritize projects if it wished it would also decrease
6 toxics? Is there that flexibility or is that within the
7 flexibility of a local district?

8 INCENTIVES AND TECHNOLOGY ADVANCEMENT BRANCH

9 CHIEF ROWLAND: Scott Rowland, Chief of the Incentives and
10 Technology Advancement Branch.

11 Currently, the program is very much a locally
12 directed program. An individual district can, for
13 instance, chose to prioritize PM reduction and select
14 projects that do that. In fact, it is also possible under
15 current statute full disclosure for a district to
16 prioritize projects that reduce GHG. What is not possible
17 is for them to provide any additional funding towards
18 those projects, which obviously creates some disincentives
19 for an applicant.

20 BOARD MEMBER GIOIA: With additional funding,
21 yeah. Right. I see what you're saying. Thanks.

22 ACTING CHAIRPERSON SERNA: Any other questions?

23 Ms. Berg and then Mayor Mitchell.

24 BOARD MEMBER BERG: You can take Mayor Mitchell
25 first.

1 BOARD MEMBER MITCHELL: I just want to say we are
2 in strong support of the concepts here for changes to this
3 program. As we've seen, the requirements have been more
4 stringent. It becomes harder and harder for applicants to
5 meet that criteria because you have to have something
6 that -- to improve your vehicle beyond what is already
7 required. That becomes harder and harder. So I think
8 this is a good step in the right direction.

9 The other part of this that I think is a really
10 good addition is that you can expand infrastructure. And
11 as we're moving into electric vehicles, fuel cell
12 vehicles, we will need to expand that infrastructure.

13 We talked on the last item about how we can begin
14 to incentivize and fund some of the clean technologies we
15 expect in the freight movement sector. And this can be
16 one of those pieces. We need to -- as Dr. Sperling
17 mentioned, we need to find some structure for how we move
18 forward with this.

19 But I think some of these pieces of funding and
20 incentives that we are looking for are going to be part of
21 that structure as we move forward. So very strongly in
22 support of this program. We use it, as you all know,
23 quite a lot in the South Coast District, and we have
24 additional funding through the DMV funds in the South
25 Coast district. So it's really been a -- I would say a

1 notable addition to our toolbox of how to clean up the
2 emissions in the South Coast. So thank you.

3 ACTING CHAIRPERSON SERNA: Ms. Berg.

4 BOARD MEMBER BERG: Thank you.

5 I'd just like to make the closing comment of this
6 has been a remarkable process. When we look at the seven,
7 eight years that the Incentive Advisory Committee has been
8 at work, this really is the culmination of all that hard
9 work. And CAPCOA and ARB has done yoman's work and along
10 with our fellow stakeholders to getting us to this point.
11 As we started out re-envisioning our incentive moneys and
12 what that would look like, we've come a long way.

13 Our last IPAG meeting was hosted by South Coast
14 Air Quality Management District, and we had a first. And
15 that first was we had a remote offsite. So about 100 of
16 us were at South Coast. But there was a strong group that
17 was here in Sacramento. And for the first time, we
18 actually held that remote group as if they were in the
19 room. And they participated as if they were in the room.
20 And that was also very exciting.

21 But I personally wanted to thank and recognize
22 Fred Minassian. And he has recently been promoted, a very
23 well-earned promotion, is now the Assistant Deputy
24 Executive Officer. We will miss him. But we won't let
25 him go too far. We are part of that incentive family. We

1 are going to count on you being around still.

2 But we wanted to thank you for your hospitality
3 at the last IPAG meeting. It was really very, very
4 exciting.

5 So congratulations, staff. Erik, you and your
6 team have been nothing but outstanding. Thank you very
7 much, Alan, for the leadership of CAPCOA. It's really
8 been a lot of fun. Congratulations.

9 ACTING CHAIRPERSON SERNA: I know you wanted the
10 last word, but I'll take it as the Chair today. And just
11 extend our thanks on behalf of the Board and certainly on
12 behalf of Mary for keeping your thumb on the pulse of this
13 program.

14 And you know, we have a Board that obviously by
15 its composition has its specialities, whether it be public
16 health or otherwise. And Ms. Berg, to use her term, has
17 done a yoman's job from the Board's perspective working
18 with staff and CAPCOA and others to make sure that the
19 policies being implemented as it should be and enhanced as
20 it should be. So we want to thank you for all that
21 support.

22 That is an informational item as well.

23 Next on the agenda is an opportunity for members
24 of the Board to comment on matters of interest.

25 I will just make note of an opportunity I had

1 last week to join others in the fine community of West
2 Sacramento just across the river to commemorate the
3 opening of this state's tenth hydrogen fuel station,
4 public fuel station. And the only negative comment I had
5 to say is it's too bad it's on that side of the river. We
6 want to see the 11, 12th, 13th and more certainly
7 throughout the state.

8 It was a delight to be part of an acknowledgement
9 of all the parties, including the California Fuel Cell
10 Partnership and others, Ramus Oil, Indy North America that
11 made that possible. So now consumers here in Northern
12 California, specifically Sacramento region, have an
13 opportunity to fuel their fuel cell vehicles. And
14 hopefully that's really enhances consumer preference for
15 alternative fuel.

16 So next on our agenda is the public's opportunity
17 to address this Board on items not on the agenda. We do
18 have three individuals that have signed up to speak.
19 Before I call their names, I'm going to remind them and us
20 that we cannot deliberate, nor can we act on items that
21 are not on our agenda.

22 So with that, I'm going to call John Larrea, the
23 California League of Food Processors.

24 MR. LARREA: Thank you, members. John Larrea
25 with the California League of Food Processors.

1 First of all, I want to wish everybody the
2 happiest of holidays. I know it's been a long year and
3 we're all looking forward to a rest the end of this year.

4 What brings me here today is benchmarking. The
5 food processors for the first time this year, we
6 implemented a product-based benchmark. And I can happily
7 report that we are for the most part quite satisfied with
8 the outcome of that.

9 But as with everything, you know, after it goes
10 for a while, we tend to find some flaws or some unintended
11 consequences that will need to be cleaned up. I'm not
12 going to go into the details of this. I want to let the
13 staff know that the facilities that are going to be
14 impacted are going to be sending you a letter issuing the
15 details associated with this. We're going to look forward
16 to working with you all to fix that.

17 By the way, I also wanted to -- I didn't want to
18 forget. I wanted to thank the verification unit and the
19 benchmarking unit for their extraordinary efforts during
20 the implementation of this benchmark. It was kind of a
21 rocky start. And we were in the middle of our season, the
22 beginning of our season actually, so there was some
23 questions there as to how we were going to be able to get
24 this done. And the staff really did a good job by staying
25 on top of that.

1 What brings me here today though is that in terms
2 of the issue associated with the benchmark, we feel
3 there's probably going to be requiring the regulation to
4 be reopened in order to be able to correct the flaws
5 associated with that. And while we are more than happy to
6 find alternative methods if that's available, it sounds
7 like the Board's year is going to be quite busy. And we
8 don't want you to kind of lose focus on the cap and trade
9 itself and on the regulations and moving forward. You do
10 have over 600 industries out there or companies out there
11 subject to this. As we progress through the years,
12 there's going to be changes that are going to need to be
13 made in order to meet the economic changes that are
14 occurring also.

15 So we would just hope that you would consider it
16 a priority to make sure the cap and trade regulation is
17 moving smoothly and that it is not unduly burdening any
18 industry that is subject to that. And that you'll work
19 with us to help get this done this year so that we can
20 make sure that we can progress into the next one. Thank
21 you very much.

22 ACTING CHAIRPERSON SERNA: Thank you.

23 Bud Caldwell.

24 MR. CALDWELL: Good afternoon. I'm Bud Caldwell,
25 Alliance for California Businesses. Three minutes.

1 When we started this process, we looked at this
2 Board and realized it's comprised of some exceptional
3 hard-working people that are really intelligent. And we
4 thank you for your service.

5 But saying that, we believe that there is a lot
6 of information that may not be in front of you. Things
7 like the current trucks with DPFs that are igniting all
8 over the state. In my letter to the member at large, we
9 included those. And if you did nothing else and we
10 provided each one of you a CD of that letter and if you
11 would just look at those, and I'd leave it in your good
12 and capable hands as to what to do and think about those
13 pictures. But it is a serious situation in the state.

14 A year ago, I told you right here that the DPFs
15 were dangerous, extremely expensive, and they didn't work.
16 And today, I say they are extremely dangerous. They're
17 unsafe and they frequently don't work. So I think with
18 that I'll leave it alone and leave it up to you. But
19 please, if you would, take a look at those pictures.

20 ACTING CHAIRPERSON SERNA: Thank you.

21 Hank de Carbonel.

22 MR. DE CARBONEL: I'd like to just echo what Bud
23 said. We've included on those disks a number of
24 photographs and some video of number of trucks on fire on
25 the highways of California. But as many of you know, we

1 knew have these emissions devices, not just retrofits but
2 OEMs all across the United States. This is a problem
3 that's going on not just in California, but everywhere.

4 And I should also remind you that it's not just
5 freight trucks or those types of vehicles. It's also
6 school buses and motor coaches. So school buses are
7 subject to fire. We had one in Southern California just
8 this last week. We had a freight truck on fire on 580 in
9 Livermore on Monday. We three trucks destroyed, 49 truck
10 stop just Thanksgiving and another one just up the road in
11 Dunnigan while fueling was burned to the ground as well.

12 This is a serious problem. We as civilians don't
13 really have access to all the information. All we can get
14 is anecdotal. What we see is a growing problem with these
15 fires.

16 We also know that the insurance industry now is
17 taking a look at this because they're seeing a rapidly
18 increasing incidences of fires on these trucks and with
19 these devices, and they're uncomfortable with that.

20 So something needs to be done before we do have a
21 fatality or fatalities. And you guys are directly
22 responsible for this. As Bud says, I think some of you
23 know I've been here quite a while talking about these
24 filters and problems with them. And everybody just wants
25 to think it's going to go away or it's not that serious.

1 Well, it's serious now. It's serious right now today, and
2 that's why we took the time to be here all day.

3 We appreciate being the last guys, and I know
4 everybody wants to go home. But this is a serious,
5 serious problem. And we're talking about lives, not just
6 some fancy truck or something. But it's going on and on
7 and it all started right here in this building. So
8 there's no ducking or dodging it or saying we're going to
9 do a study. These things have to be suspended until we
10 really know what we're talking about and what we're
11 dealing with. I'm not -- as I say, this is not just the
12 retrofits. This is the OEM equipment as well, and it goes
13 across all brands. So thank you very much.

14 ACTING CHAIRPERSON SERNA: Thank you. Okay.

15 That completes our agenda today. Before we
16 adjourn, I want to wish my colleagues happy holidays,
17 Merry Christmas, happy New Years. Same the staff. We
18 look forward to 2015.

19 So with that, we are adjourned.

20 (Whereupon the Air Resources Board meeting
21 adjourned at 3:39 PM)

CERTIFICATE OF REPORTER

I, TIFFANY C. KRAFT, a Certified Shorthand Reporter of the State of California, and Registered Professional Reporter, do hereby certify:

That I am a disinterested person herein; that the foregoing hearing was reported in shorthand by me, Tiffany C. Kraft, a Certified Shorthand Reporter of the State of California, and thereafter transcribed into typewriting.

I further certify that I am not of counsel or attorney for any of the parties to said hearing nor in any way interested in the outcome of said hearing.

IN WITNESS WHEREOF, I have hereunto set my hand this 5nd day of January, 2015.

TIFFANY C. KRAFT, CSR, RPR
Certified Shorthand Reporter
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