

MEETING
STATE OF CALIFORNIA
AIR RESOURCES BOARD

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

FRIDAY, APRIL 27, 2018

9:14 A.M.

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

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Senator Dean Florez

Supervisor John Gioia

Assembly Member Eduardo Garcia

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Mrs. Barbara Riordan

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Professor Dan Sperling

Ms. Diane Takvorian

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Mr. Steve Cliff, Deputy Executive Officer

Mr. Kurt Karperos, Deputy Executive Officer

Ms. Ellen Peter, Chief Counsel

Ms. La Ronda Bowen, Ombudsman

Ms. Emily Wimberger, Chief Economist

Ms. Veronica Eady, Assistant Executive Officer

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

STAFF:

Mr. Anthy Alexiades, Air Resources Engineer, Alternative Fuels Section, Industrial Strategies Division(ISD)

Mr. Mike Carter, Assistant Division Chief, Mobile Source Control Division(MSCD)

Mr. Bart Croes, Division Chief, Research Division(RD)

Mr. Jim Duffy, Manager, Alternative Fuels Section, ISD

Mr. Kyle Goff, Air Pollution Specialist, Incentives Oversight Section, MSCD

Mr. Jorn Herner, Branch Chief, Research Planning and Emission Mitigation, RD

Ms. Debbie Kerns, Senior Attorney, Legal Office

Mr. Jack Kitowski, Chief, MSCD

Mr. Gabriel Monroe, Attorney, Legal Office

Ms. Sarah Pittiglio, Climate Action and Research Planning Section, RD

Mr. Scott Rowland, Branch Chief, Incentives and Technology Advancement Branch, MSCD

Ms. Rajinder Sahota, Assistant Division Chief, ISD

Ms. Elizabeth Scheehle, Branch Chief, Oil and Gas GHG Mitigation Branch, ISD

Ms. Annalisa Schilla, Section Lead, Climate Action and Research Planning Section, RD

Mr. Doug Thompson, Manager, Incentives Oversight Section, MSCD

Mr. Floyd Vergara, Division Chief, ISD

Mr. Samuel Wade, Branch Chief, Transportation Fuels Branch, ISD

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

ALSO PRESENT:

Mr. Alan Abbs, California Air Pollution Control Officers Association

Ms. Joy Alafia, Western Propane Gas Association

Mr. Ruben Aronin, Energy Independence Now

Mr. Jason Barbose, Union of Concerned Scientists

Mr. Will Barrett, American Lung Association

Mr. Jane Berner, California Energy Commission

Mr. Brian Biering, Sonoma Clean Air Power Authority

Mr. Robert Bienenfeld, American Honda Motor Co. Inc

Mr. Michael Boccadoro, Ag Energy Consumers Association

Mr. Steven Bohlen, Lawrence Livermore National Laboratory

Mr. Elan Bond, Nel Hydrogen

Mr. Louie Brown, KSC

Mr. Tony Brunello, Conestoga Energy

Ms. Julia Bussey, Chevron Corporation

Mr. Michael Carr, Shell

Mr. Al Collins, Occidental Petroleum Corporation

Ms. Erin Cooke, San Francisco International Airport

Mr. Geoff Cooper, Renewable Fuels Association

Mr. Jon Costantino, Renewable Products Marketing Group

Mr. Dayne Delahoussaye, Neste

Ms. Sarah A. Deslauriers, California Association of Sanitation Agencies

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

ALSO PRESENT:

Mr. Steven Douglas, Alliance of Automobile Manufacturers

Mr. Evan Edgar, Compost Coalition

Mr. Dave Edwards, Air Liquide

Ms. Melinda Franklin, United Airlines and A4A

Mr. Joe Gagliano, United Hydrogen

Ms. Genevieve Gale, Central Valley Air Quality Coalition

Ms. Hannah Goldsmith, California Electric Transportation Coalition

Mr. Ben Gustafson, Motiv

Mr. Jamie Hall, General Motors

Mr. Dwight Hanson, Green Lane Biogas

Mr. Scott Hedderich, Renewable Energy Group

Mr. Jason Hills, Los Angeles Department of Water and Power

Ms. Sarah Johnson, California Airports Council

Ms. Nina Kapoor, Coalition for Renewable Natural Gas

Mr. Tom Koehler, Pacific Ethanol, Inc.

Mr. Ryan Kenny, Clean Energy

Mr. Thomas Lawson, California Natural Gas Vehicle Coalition

Mr. Wayne Leighty, Shell Hydrogen

Mr. Jaime Lemus, Sacramento Metropolitan Air Quality Management District

Ms. Julia Levin, Bioenergy Association of California

Mr. Mike Lord, Toyota Motor North America

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

ALSO PRESENT:

Mr. Kevin Maggay, Socal Gas

Mr. Justin Malan, Ceres

Mr. Brian McDonald, Andeavor

Ms. Amanda Meyers, ChargePoint

Mr. Wayne Michaud, Idle-Free CA

Mr. Fred Minassian, South Coast Air Quality Management
District

Mr. Pete Montgomery, Global CCS Institute

Ms. Briana Mordick, Natural Resources Defense Council

Mr. Ken Morgan, Tesla Inc.

Mr. Simon Mui, Natural Resources Defense Council

Mr. Colin Murphy, NextGen California

Ms. Deepika Nagabhushan, Clean Air Task Force

Mr. Graham Noyes, Noyes Law Corporation

Mr. Curtis M. Oldenburg, Lawrence Berkeley National
Laboratory

Mr. Charlie Ott, Fremont Unified School District

Mr. Brandon Price, Clean Energy

Mr. Jeff Reed, University of Irvine

Ms. Cathy Reheis-Boyd, Western States Petroleum
Association

Ms. Katelyn Roedner Sutter, Environmental Defense Fund

Mr. David Rubenstein, California Ethanol & Power

Mr. Rocky Rushing, Coalition for Clean Air

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

ALSO PRESENT:

Mr. Ryan Schuchard, CALSTART

Mr. Bryan Sherbacow, World Energy

Ms. Mary Solecki, AJW

Mr. Brian Steenhard, White Energy

Mr. Shane Stephens, First Elements Fuel Inc.(True Zero)

Ms. Eileen Tutt, California Electric Transportation
Coalition

Mr. Stefan Unnasch, Life Cycle Associates

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P R O C E E D I N G S

1
2 CHAIR NICHOLS: My apologies for starting a few
3 minutes late. We were giving some extra time for people
4 who apparently didn't get the word, didn't see the agenda
5 that indicate that the meeting was here this morning. So
6 we had some people who showed up over at the County
7 thinking that the meeting was going to be there, but we're
8 here. I think everybody is here, or at least has gotten
9 the message. So we should be able to get started.

10 And so I want welcome everybody to the April
11 27th, 2018 public meeting of the California Air Resources
12 Board. We will now come to order, and we'll start with
13 the Pledge of Allegiance as usual.

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

16 CHAIR NICHOLS: All right. Madam Clerk, would
17 you please call the roll?

18 BOARD CLERK McREYNOLDS: Dr. Balmes?

19 Mr. Eisenhut?

20 BOARD MEMBER EISENHUT: Here.

21 BOARD CLERK McREYNOLDS: Mr. De La Torre?

22 BOARD MEMBER DE LA TORRE: Here.

23 BOARD CLERK McREYNOLDS: Senator Florez?

24 BOARD MEMBER FLOREZ: Here.

25 BOARD CLERK McREYNOLDS: Assembly Member Garcia?

1 Supervisor Gioia?

2 BOARD MEMBER GIOIA: Here.

3 BOARD CLERK McREYNOLDS: Senator Lara?

4 Ms. Mitchell?

5 BOARD MEMBER MITCHELL: Here.

6 BOARD CLERK McREYNOLDS: Mrs. Riordan?

7 BOARD MEMBER RIORDAN: Here.

8 BOARD CLERK McREYNOLDS: Supervise Roberts

9 Supervisor Serna?

10 BOARD MEMBER SERNA: Here.

11 BOARD CLERK McREYNOLDS: Dr. Sherriffs?

12 BOARD MEMBER SHERRIFFS: Here.

13 BOARD CLERK McREYNOLDS: Professor Sperling?

14 BOARD MEMBER SPERLING: Here.

15 BOARD CLERK McREYNOLDS: Ms. Takvorian?

16 BOARD MEMBER TAKVORIAN: Here.

17 BOARD CLERK McREYNOLDS: Vice Chair Berg?

18 VICE CHAIR BERG: Here.

19 BOARD CLERK McREYNOLDS: Chair Nichols?

20 CHAIR NICHOLS: Here.

21 BOARD CLERK McREYNOLDS: Madam Chair, we have a
22 quorum.

23 CHAIR NICHOLS: Thank you very much.

24 I need to make a couple of announcements before
25 we get started. First with regard to interpretation

1 services, we will be providing interpretation in Spanish
2 for the first item, the Proposed Community Air Protection
3 Funds Supplement to the Carl Moyer Memorial Air quality
4 Standards Attainment Program 2017 Guidelines. And
5 headsets are available outside the hearing room at the
6 attendant sign-up table, and can be picked up at any time.

7 (Thereupon interpretation into Spanish.)

8 CHAIR NICHOLS: Thank you.

9 For safety reasons, I need to remind everybody
10 that there are emergency exits at the rear of the room.
11 And in the event of a fire alarm, we're required to
12 evacuate this room immediately, go down the stairs, not
13 the elevators, and exit the building until we hear the
14 all-clear signal.

15 Anyone who wishes to testify should fill out a
16 request-to-speak card. Those are also available in the
17 clerk out -- I'm sorry, in the lobby outside the hearing
18 room. Please turn it into a Board assistant or the Clerk
19 prior to the commencement of the item, so we can see how
20 much time we need to allocate for each item.

21 If we get a very large number of speakers on any
22 one item, we may actually shorten the three-minute time
23 limit, which is our normal limit, even further, if we have
24 to. But we hope not to have to do that.

25 We appreciate if people put their testimony in

1 their own words and don't read from their -- from their
2 prepared statement.

3 So our first agenda item is a proposal for early
4 action incentive funds that would go for implementation of
5 Assembly Bill 617 through the Carl Moyer Program to reduce
6 emissions in impacted communities. AB 16 provides a new
7 community-focused approach to improving air quality in
8 disproportionately impacted communities.

9 In September of this past year, Governor Brown
10 and the legislature approved early action funding to
11 ensure that we would deliver immediate emissions
12 reductions in disadvantaged and low-income communities
13 that need it the most.

14 Today, we have the opportunity to consider some
15 changes to the Carl Moyer Program that is administered
16 through the air districts that will help support those
17 efforts.

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

19 EXECUTIVE OFFICER COREY: Yes. Thanks, Chair.

20 Last month, the Board heard an update on AB 617.
21 And in response to AB 617, we response -- we established
22 the Office of Community Air Protection to reduce emissions
23 in the most impacted communities. The Community driven
24 approach includes monitoring, regulation, funding for
25 community-based organizations, and incentives all informed

1 by the needs of communities.

2 In September, AB 134 appropriated 250 million in
3 greenhouse gas reductions funds to support the AB 617
4 mission through incentives. These funds will go out to
5 our air district partners who will select projects and
6 administer the incentive dollars at the local level
7 following consultation with community groups.

8 And per budget language, these early actions
9 funds will be administered through the Carl Moyer Program,
10 which has been a standard for delivering cost-effective
11 emission reductions statewide. Moyer incentives fund
12 cleaner technologies, while also ensuring sound fiscal
13 management. It's a natural fit to use the successful
14 Moyer Program for the early action 617 incentives.

15 Last year, the Board approved several changes to
16 the Moyer Program to make it more able to support the
17 State's air quality goals. This year, after consultation
18 with community groups through a series of workshops, we're
19 proposing more focused changes to the program to help
20 communities.

21 However, incentives are only part of the
22 comprehensive approach needed to improve air quality in
23 the most vulnerable communities. And this is only the
24 first step towards a broader program to support AB 617 in
25 the future. I'll now ask Kyle Goff of the Mobile Source

1 Control Division to begin the staff presentation.

2 Kyle.

3 (Thereupon an overhead presentation was
4 presented as follows.)

5 AIR POLLUTION SPECIALIST GOFF: Thank you, Mr.
6 Corey. Good morning, Chair Nichols and members of the
7 Board. Today, I'm going to present for your consideration
8 a proposal to enable the timely and effective use of
9 community air protection funds through a supplement to the
10 Carl Moyer Program guidelines.

11 --o0o--

12 AIR POLLUTION SPECIALIST GOFF: Community air
13 protection funds sit at the nexus of several CARB programs
14 and legislative actions. So there are a number of related
15 issues to consider. I'll describe some background on that
16 legislation and how our proposal has been guided by ideas
17 and concerns that we've heard from community groups.

18 I'll then describe the proposal itself - a
19 supplement to the Moyer guidelines, the same guidelines
20 that you approved exactly one year ago today. This
21 supplement is going to enable districts to be more
22 responsive to the needs of their communities than they
23 otherwise would be under the regular Moyer requirements.

24 Next, I'll update you on the work that we're
25 doing to put money into the communities as quickly as

1 possible. And finally, to wrap up today's presentation, I
2 will go over what we see as our next steps and to provide
3 our recommendation.

4 --o0o--

5 AIR POLLUTION SPECIALIST GOFF: The foundation
6 for what we're proposing today is Assembly Bill 617,
7 signed into law last summer by Governor Brown. AB 617
8 directs CARB and local air districts to establish the
9 Community Air Protection Program with the active
10 involvement of community members and community
11 organizations. This program emphasizes ensuring that
12 California's most impacted communities are the focus of
13 extra action to reduce air pollution, in addition to our
14 existing regional planning efforts.

15 Elements of AB 617 include the statewide strategy
16 and monitoring plan that you will consider this fall, with
17 new regulations and enforcement that are identified in
18 that strategy to follow.

19 But we can begin to reduce neighborhood air
20 pollution sooner and get a head start in bringing benefits
21 to the most impacted communities across the state.

22 --o0o--

23 AIR POLLUTION SPECIALIST GOFF: That's the
24 thinking behind putting the community air protection funds
25 into the State budget last September. Assembly Bill 134

1 directed \$250 million of greenhouse gas reduction funds to
2 be used for incentives to support community air protection
3 in order to provide immediate benefits to impacted
4 communities and to support the goals of AB 617.

5 The legislature directed 95 percent of these
6 funds to the three largest air districts, that's South
7 Coast, San Joaquin Valley, and the Bay Area. CARB staff
8 has worked alongside CAPCOA to allocate the remaining five
9 percent.

10 The bill directed the funds to existing mobile
11 source incentives programs, that's the Carl Moyer Program,
12 and the Proposition 1B goods movement program. And using
13 these existing programs gets the funds moving sooner.

14 CARB and air district staffs have worked to
15 ensure that community voices are heard and that our
16 approach isn't just business as usual. We're working not
17 just to move the funds out the door, but also to ensure
18 that projects are selected in a manner that respects
19 community needs, and reflects community ideas.

20 The signed grant agreements require that air
21 districts document how community input was considered in
22 project selection, and we have an oversight role to play
23 to ensure this. This requires a renewed and continuing
24 commitment to public engagement - meetings, discussions,
25 surveys, and conversations all to listen to and exchange

1 ideas with community groups and individuals.

2 --o0o--

3 AIR POLLUTION SPECIALIST GOFF: So while specific
4 projects selected will be informed by community input,
5 under AB 134, districts will fund them through the
6 existing Moyer and Proposition 1B programs. The Moyer
7 Program has been providing SIP-creditable cost-effective
8 emission reductions for over 20 years now through the
9 turnover of older, high-polluting engines with new
10 cleaner-than-required replacements.

11 CARB and the local air districts work together to
12 implement the program and rigorous eligibility criteria
13 ensures that emissions reduced are both permanent and
14 enforceable, while cost effectiveness requirements ensure
15 that project dollars are well spent.

16 This program covers a wide array of mobile source
17 projects. And this flexibility allows us to address an
18 equally wide array of community concerns from reducing
19 emissions at ports to protecting our most sensitive
20 populations.

21 --o0o--

22 AIR POLLUTION SPECIALIST GOFF: Per the
23 legislation, districts may also choose to spend up to 40
24 percent of their community air protection funds on clean
25 truck projects using the funding amounts and truck

1 evaluation criteria of the Proposition 1B program. The
2 purpose of the Proposition 1B program is to reduce
3 emissions from goods movement and freight activities along
4 California's four major trade corridors.

5 The program ranks projects by cost effectiveness
6 and it places zero-emission vehicles at the top. But
7 there's not a specific cost effectiveness limit as is
8 required by Moyer. This method can be more attractive to
9 some applicants, as it means that they have a certainty of
10 receiving a particular fixed grant amount.

11 The Community Air Protection Fund emphasis on
12 getting timely reductions in disadvantaged and low-income
13 communities will still be applied.

14 --o0o--

15 AIR POLLUTION SPECIALIST GOFF: These new
16 incentive dollars come from the Greenhouse Gas Reduction
17 Fund. And as such, district projects will be required to
18 facilitate greenhouse gas reductions. But the principles
19 of California climate investments also align well with the
20 it goals of AB 617. Community Air Protection Funds are
21 going to maximize benefits to disadvantaged communities,
22 reduce air pollution to achieve public health benefits,
23 and implement clean technology projects that contribute to
24 State climate goals, all of which are fully consistent
25 with the California Climate Investment Principles.

1 Under Assembly Bill 1550, there are also
2 investment minimums that GGRF dollars benefit
3 disadvantaged communities and low-income communities and
4 households. To help contribute to this legislative
5 mandate, at least 50 percent of community air protection
6 funds are going to go to projects located in and
7 benefiting disadvantaged communities. And at least 80
8 percent of the funds overall are going to go to projects
9 located in and benefiting disadvantaged or low-income
10 communities.

11 Note that we're using AB 1550 funds here as an
12 initial surrogate to achieve these early benefits, while
13 the broader processes of AB 617 take shape. We'll be
14 adjusting our approach as AB 617 implementation goes
15 forward, and as we continue to receive guidance from
16 communities.

17 --o0o--

18 AIR POLLUTION SPECIALIST GOFF: That guidance is
19 crucial to meeting the goals of AB 617. Board members
20 have spoken of how important it is that we engage with
21 communities and seek their guidance and work together with
22 them and the air districts to best address their needs.
23 We've endeavored to do just that, albeit within the
24 expeditious nature of this project.

25 In February, we and our air district partners

1 held four public workshops to seek guidance from community
2 members and other interested attendees, and share ideas
3 for our proposed guideline supplement. These included
4 evening workshops in the San Joaquin Valley, in the City
5 of Commerce, and in Oakland, as well as a daytime workshop
6 in Sacramento.

7 We heard a variety of concerns and suggestions
8 that informed today's proposal, but we know that this is
9 just the beginning. Air districts are conducting
10 additional public meetings and other community events to
11 better understand the interests and concerns of their
12 communities. But these initial joint workshops provided
13 the guidance to help form today's proposal.

14 --o0o--

15 AIR POLLUTION SPECIALIST GOFF: From communities
16 across the State, we heard that freight activities in and
17 around ports, railyards, and distribution centers are an
18 ongoing, and, in some cases, worsening concern. We heard
19 overwhelming and often passionate support for zero
20 emission technologies, and the importance of
21 infrastructure to support the adoption of those
22 technologies.

23 We also heard support from both community members
24 and potential applicants for lowering the financial and
25 administrative barriers that prevent some people from

1 participating in the program.

2 Going back to the goals of AB 617, there was
3 widespread agreement that protecting sensitive
4 populations, particularly school children, requires added
5 focus. In broader terms, people also just want to ensure
6 and verify that their communities benefit from our
7 efforts. Finally, we heard clearly about the need to do
8 more than could be done in just this first step.

9 Concerns were shared that lay beyond the scope of
10 the Moyer and Proposition 1B programs, like cleaning up
11 stationary sources, or funding the enforcement of idling
12 restrictions, and, of course, adding funding beyond just
13 this first year.

14 We acknowledge the need to do more in the future,
15 and we hope for added flexibility for future community air
16 protection funds. But our immediate task is to augment
17 the Moyer guidelines, to deliver relief to impacted
18 communities this year. Our proposal for that is described
19 in the next four slides.

20 --o0o--

21 AIR POLLUTION SPECIALIST GOFF: First and
22 foremost, we heard the importance of cleaning up trucks
23 and equipment from freight activities at ports, railyards,
24 warehouses, and other freight hubs. We propose to
25 increase the cost percentage that Moyer can pay for

1 infrastructure projects located at these facilities, since
2 cost is often an Impediment to adopting cleaner
3 alternatives.

4 But we also proposed to cover a greater portion
5 of the cost of transport refrigeration units, and to
6 clarify their eligibility in response to more interest and
7 zero emission and hybrid options.

8 Freight is also an area where we see Proposition
9 1B as being important with fixed grant amounts for
10 applicants.

11 With continued effort and support, we can build
12 more substantial opportunities to foster the adoption of
13 zero emission technologies at these facilities.

14 --o0o--

15 AIR POLLUTION SPECIALIST GOFF: To meet that need
16 for freight and other sources, we want to make it easier
17 for applicants to choose zero emission. This includes
18 removing funding caps for zero emission trucks, and
19 letting cost effectiveness alone determine grant amounts
20 for them.

21 Similar to our approach to infrastructure at
22 ports, we propose to pay a greater share of the cost of
23 infrastructure for zero-emission charging and alternative
24 fueling stations. For those circumstances where zero
25 emission options won't work, CNG trucks meeting the

1 optional low NOx standards can still be funded through
2 either Proposition 1B or Moyer using the latest
3 guidelines, which have already been adjusted to better
4 support the cleanest optional standards with grant awards
5 up to \$100,000 per truck.

6 --o0o--

7 AIR POLLUTION SPECIALIST GOFF: The out-of-pocket
8 costs is often a major barrier that prevents
9 reparticipation in the Moyer Program. For a variety of
10 project types, we propose to increase the portion of the
11 cost that Moyer can pay by 10 to 15 percent for most
12 projects. As mentioned for zero emission on-road
13 projects, in particular, we also propose removing a
14 program's funding caps.

15 These proposed changes are going to make it more
16 feasible for applicants to participate in the Moyer
17 Program and to chose those cleaner technologies. Cost
18 effectiveness limits are still going to apply to all
19 projects as required by Moyer statute. However, you may
20 recall that last year, the Board adopted higher cost
21 effectiveness limits to better support advanced
22 technologies.

23 These limits are already sufficient and won't act
24 as barriers to prevent applicants with otherwise good
25 projects from participating.

1 You may also recall that we set a unique cost
2 effectiveness limit for school bus projects that would
3 allow for them to receive higher grant amounts consistent
4 with the Lower Emission School Bus Program. This change
5 already supports the goals of AB 617, but there's room for
6 additional flexibility there beyond just changes to grant
7 amounts.

8 --o0o--

9 AIR POLLUTION SPECIALIST GOFF: We propose a
10 number of changes focused on protecting sensitive
11 populations, including school children. The Moyer Program
12 can already cover up to 100 percent of the cost of
13 infrastructure for projects located at public schools.
14 And we propose to extend that to projects at other
15 sensitive populations, including school -- including
16 hospitals, care centers, and other locations CARB or
17 districts may determine.

18 We also propose to extend eligibility to private
19 school bus operators that transport public school
20 children. Finally, low usage often renders grant amounts
21 too low to be feasible. And as result school districts
22 have struggled to replace the oldest school buses in their
23 fleets.

24 We propose evaluating usage on a fleet-wide level
25 for school buses, acknowledging that usage decisions are

1 often made at that level. This is going to enable the
2 oldest school buses to be replaced.

3 --o0o--

4 AIR POLLUTION SPECIALIST GOFF: All of this, as
5 I've indicated, is to deliver benefits to the most
6 impacted communities. We've worked alongside the air
7 districts to balance the need for immediate benefits and
8 to consider the guidance of communities.

9 The funds are already starting to flow to the
10 three largest air districts, even as they continue to
11 engage with their communities to focus their project
12 decisions. And CARB staff is monitoring air district
13 outreach and project selection as we disburse these funds.

14 The other air districts have also begun to engage
15 with their communities. As the public processes of these
16 other districts continue to take shape, we're working with
17 them to ensure that the funds can be put into their hands
18 and that they can start funding projects quickly.

19 We believe that we've struck the necessary
20 balance to successfully take this first step in bringing
21 benefits to the communities that most need them in a
22 manner that's both expeditious, and responsive to their
23 needs and concerns.

24 --o0o--

25 AIR POLLUTION SPECIALIST GOFF: To be clear, we

1 all recognize that this is just the first step in a an
2 ongoing journey. The first increment of funds will be put
3 to work soon, but there's a clear need for ongoing
4 incentive support within the overall AB 617 program.

5 Sources of air pollution beyond the reach of the
6 Moyer and Proposition 1B programs continue to have a major
7 impact on communities. More work has got to be done with
8 the these communities to identify those sources and
9 address them incentives can be a part of the solution to
10 local pollution.

11 The Governor's budget recognizes this, proposing
12 another \$250 million in the coming year to address both
13 mobile and stationary sources. With this direction, an
14 expanded incentives program can be developed to address
15 the comprehensive needs of AB 617.

16 --o0o--

17 AIR POLLUTION SPECIALIST GOFF: For today though,
18 the first step is using the Moyer and Proposition 1B
19 projects to deliver immediate benefits in disadvantaged
20 and low-income communities. To assist in that effort, we
21 recommend that the Board approves the proposed Moyer
22 guideline supplement, which will begin to address the
23 concerns that we heard from communities themselves.

24 With your approval, we will implement these
25 changes within the broader AB 617 process, and we'll also

1 continue to work with the air districts and community
2 groups to build the community air protection incentives
3 program of the future.

4 Thank you.

5 CHAIR NICHOLS: Thank you for the presentation.

6 I think we should hear now from the witnesses who
7 have signed up. We have nine, and it looks like they're
8 all in support, so we may have some questions. But why
9 don't we just get started with Alan Abbs. Welcome.

10 CAPCOA EXECUTIVE DIRECTOR ABBS: Good morning,
11 Chairperson Nichols and members of the Board. My name is
12 Alan Abbs. I'm the Executive director for the California
13 Air Pollution Control Officers Association representing
14 the 35 air districts in California.

15 And I want to start by thanking CARB staff for
16 the work they've done leading up to the presentation
17 today. As they've noted, there's been an extensive round
18 of workshops to develop the recommendations that you have
19 before you today. And at the same time, as they also
20 noted, the air districts are taking this program
21 seriously. And they've also been engaging their local
22 workshops to get community input and develop their list of
23 funding to get the immediate reductions that we want out
24 of this first round of funding, and that reflect some
25 immediate emission reductions as well as community

1 benefits. And so we fully support staff's recommendation
2 and thank you for allowing us to participate in the
3 process.

4 CHAIR NICHOLS: Thank you. Could I just take
5 advantage of your being up here for a moment, because I
6 think while probably everybody here is deeply immersed in
7 the details of how these programs work, I'm not sure that
8 all of us are. And I'd like to kind of take us to the
9 basics for just a minute.

10 So this \$250 million that we're talking about at
11 the moment is money that was appropriated last year
12 through the legislature, the budget bill signed by the
13 Governor. And it's intended to be spent right away. But
14 it flows to the districts based on a formula of some kind,
15 and the districts are the ones that actually are
16 responsible for putting the money out there to work in the
17 communities, right?

18 CAPCOA EXECUTIVE DIRECTOR ABBS: Correct. So the
19 95 percent of the funding up front was allocated in the
20 budget bill to South Coast, San Joaquin, and the Bay Area.
21 And then I had the dubious privilege --

22 (Laughter.)

23 CAPCOA EXECUTIVE DIRECTOR ABBS: -- of figuring
24 out where the remaining five percent went with guidance.

25 CHAIR NICHOLS: How to allocate that

1 smaller amount. Okay. Well, but that's -- that's I think
2 important to understand. And in terms of accountability,
3 we put out guidelines. And we then audit, in some
4 fashion -- or you report, we review to see how the money
5 was actually spent.

6 CAPCOA EXECUTIVE DIRECTOR ABBS: Right. And so
7 just the quick process of how all this works is the
8 districts obviously run the Carl Moyer Program every year.
9 Almost every district has an over-subscription of -- on a
10 year-to-year basis for Carl Moyer projects. And some of
11 these over-subscription lists are huge, because it's a
12 popular program, and it provides the reductions that we
13 promise it's going to provide.

14 And so we have -- we have the districts with
15 their current list of potential projects. They have --
16 they're working with CARB staff to take that list of
17 over-subscriptions, find out which projects are in
18 disadvantaged communities, which projects are in areas
19 that are likely priorities of the 617 process, and then
20 prioritizing those projects at the same time looking at
21 community input to figure out of that -- of that tranche
22 of projects, you know, which ones are really going to be
23 right for the community based on the input that they're
24 getting. So it's --

25 CHAIR NICHOLS: And as I understand that almost

1 none of the projects are 100 percent funded with State
2 funds. There's always some additional funding that's
3 needed.

4 CAPCOA EXECUTIVE DIRECTOR ABBS: Right. In the
5 traditional Carl Moyer process, there's always a match
6 requirement, and it's generally in the 20 percent range.
7 And there's ways that through AB 923 funding that some of
8 that match can be -- can be paid for through -- by the
9 district. But there is -- there is some match
10 requirements. Sometimes districts can provide some local
11 funding to assist getting to that match. But there's
12 always some that the project proponent needs to come up
13 with.

14 CHAIR NICHOLS: Well, I think it's a good sign
15 that the program is over-subscribed. Actually, it means
16 that there's a need and desire to get the money spent
17 quickly. But I think, given the amount of interest that
18 came out during the community consultation process, it's
19 just incumbent on all of us to make sure that we're
20 actually doing that in a way that meets the overall policy
21 goals.

22 And I know that can be hard at times, so I'm just
23 really trying to be sure that we have a process in place
24 that's going to make it happen.

25 CAPCOA EXECUTIVE DIRECTOR ABBS: And even -- even

1 in some of the smaller districts, the medium-sized
2 districts, the coastal -- coastal districts, they aren't
3 getting levels of funding like San Joaquin or South Coast
4 is. But I see all the workshop notices that -- that they
5 put out. And even the smaller districts are doing three,
6 four, five community workshops to not only talk about the
7 617 process, but also to get community input on types of
8 projects that they think would benefit their community.
9 And so, as I mentioned, we're taking it very seriously.

10 CHAIR NICHOLS: Thanks. And -- thank you very
11 much. Just a reminder for --

12 BOARD MEMBER SHERRIFFS: May I?

13 CHAIR NICHOLS: Yes. Go ahead, please.

14 BOARD MEMBER SHERRIFFS: Thank you, and thank you
15 very much for being here today.

16 I have a branding question. And I'm thinking --
17 you know, I've seen school buses and I've seen transit
18 buses, you know, advertising clean air.

19 CHAIR NICHOLS: Um-hmm.

20 BOARD MEMBER SHERRIFFS: But I don't think I've
21 ever seen a private truck advertising clean air.

22 CHAIR NICHOLS: Uh-huh.

23 BOARD MEMBER SHERRIFFS: And fundamentally, this
24 is State money, money from the public, really to support
25 the greenhouse gas reductions. It's the clean climate

1 initiatives. It's the California climate investments.
2 You know, and we're talking, I think, tens of thousands of
3 dollars potentially for a truck in funding to support
4 that.

5 And I -- I think it's important that the public
6 know this is their money being put to good use. I mean, I
7 take pride when I see a school bus or a transit bus that's
8 clean air and think great, hey, we're part of that. Go
9 California. I take pride when I see that little stick ore
10 truck that says clean idle. And I think wow, yes good.

11 You know, these trucks should be traveling
12 billboards for the great stuff that's being done. And
13 really, in a sense, you know, because we worry about
14 funding in the future and the ongoing program, how do you
15 build support if people don't know the good things the
16 funding is doing. And that's part of why 617 is so
17 important in terms of community engagement, involvement,
18 and directing those funds, and people feeling a more
19 personal involvement in that, and being able to see the
20 effects.

21 But seriously, is there any kind of standard
22 about or should we think about don't we want people to get
23 the word out? Is there -- you know, that's a lot of
24 advertising money, right?

25 CHAIR NICHOLS: Right.

1 BOARD MEMBER SHERRIFFS: Okay.

2 CHAIR NICHOLS: Got it. So, no, sometimes when
3 the legislature passes a bond act, they write in a
4 requirement that any funding under that bond has to
5 include in it a statement of what the bond was that the
6 money came from. That's perfectly doable by the
7 appropriators of the money.

8 I don't know what ARB's ability to condition that
9 funding would be, but it's certainly something we could
10 try to encourage, I think, without any question. I think
11 it's a good idea that we should.

12 BOARD MEMBER DE LA TORRE: We pay for the paint.

13 CHAIR NICHOLS: Your not --

14 (Laughter.)

15 BOARD MEMBER SHERRIFFS: Can vote on a conflict
16 of interest.

17 CHAIR NICHOLS: Okay. Thank you.

18 BOARD MEMBER TAKVORIAN: I have a question for
19 Mr. Abbs

20 CHAIR NICHOLS: Any -- yes.

21 CAPCOA EXECUTIVE DIRECTOR ABBS: Yes.

22 BOARD MEMBER TAKVORIAN: Hi. Thank you for being
23 here. I have a question. You described that the kind of
24 intensive community engagement that's occurring, which is
25 great, and been part of some of that, and it's been really

1 heartening.

2 Can you describe the level of change that's
3 occurred in the list that the districts have prepared in
4 the early part of this evolution? I understood from the
5 districts, there were long lists that they were happy to
6 see the dollars coming for. And I think those were
7 existing lists. So how -- how have those changed? And
8 can you give a percentage as to what -- how many -- how
9 much of the lists have changed in response to community
10 concerns, particularly those that would be benefiting
11 disadvantaged communities?

12 Thanks.

13 CAPCOA EXECUTIVE DIRECTOR ABBS: I think I
14 would -- I know we have some district representation here,
15 and I'd rather let them describe that if there -- if there
16 are any changes to the program, since they've been the
17 ones doing the community meetings.

18 BOARD MEMBER TAKVORIAN: Okay. Thanks.

19 CHAIR NICHOLS: Great. Thank you very much.

20 CAPCOA EXECUTIVE DIRECTOR ABBS: Thank you.

21 CHAIR NICHOLS: And next up, we have a
22 representative of the district that gets the largest
23 allocation.

24 CHAIR NICHOLS: Seem to be having a microphone
25 problem.

1 MR. MINASSIAN: Good morning, Chair Nichols and
2 members of the Board. I'm Fred Minassian from South Coast
3 Air Quality Management District. I'm the Assistant Deputy
4 Executive Officer in South Coast AQMD. First off all, I
5 would like to thank your staff for working closely with
6 us, and considering all our proposals and suggestions for
7 the development of the proposed supplemental guidelines.

8 We fully support those, and we believe projects
9 implemented under this program, under AB 134, will help
10 meet the goals of AB 617 in disadvantaged and low-income
11 communities.

12 The demand for this program is extremely high.
13 We have already held five community meetings in our
14 district. The first one we held jointly with your staff.
15 And we continue holding four more in all four counties
16 within our jurisdiction.

17 We have received plenty of inputs and suggestions
18 from our community members and we have submitted all those
19 suggestions in a report to your staff.

20 As early action, the Carl Moyer Program was
21 extremely over-subscribed. Like last year, we only had
22 about \$28 million, and we were over-subscribed by \$71
23 million. So we evaluated these projects as early action.
24 And about \$51 million of these projects were qualified
25 under AB 134 with 88 percent of those being in

1 disadvantaged and low-income communities.

2 We have been very transparent to the community.
3 And at our website, we have a map of our district with
4 indication of the disadvantaged communities, and the
5 location of all these projects are shown there as dots
6 that shows 88 percent of those are in those communities.

7 We need continued funding. And for the remaining
8 balance of these funds, we will work closely with your
9 staff adopting the flexibilities that are provided to
10 implement the remaining balance of the program.

11 Chair Nichols, as you mentioned, it's very
12 important to implement these projects expeditiously. So
13 we are already halfway through if you adopt these
14 guidelines, we will be able to implement the remaining of
15 the projects very fast. Thank you very much.

16 CHAIR NICHOLS: Thank you. Ms. Takvorian, do you
17 feel your question was answered or would you like to
18 pursue it further?

19 BOARD MEMBER TAKVORIAN: Thank you.

20 Were there any other shifts that were made in the
21 funding? I appreciate that you've articulated what
22 percentage are benefiting disadvantaged communities, did
23 you say benefiting or are actually in disadvantaged
24 communities? Maybe you can clarify.

25 MR. MINASSIAN: They are located, they are

1 domiciled --

2 BOARD MEMBER TAKVORIAN: Okay.

3 MR. MINASSIAN: -- in disadvantaged and
4 low-income communities. Based on the map that is provided
5 by Air Resources Board.

6 BOARD MEMBER TAKVORIAN: And so then the rest of
7 my question is did -- were there any other changes that
8 you made as a result of the community input that you
9 received?

10 MR. MINASSIAN: In the early action, those were
11 actually evaluated based on the current guidelines, and we
12 provided those information in all the community meetings.
13 We received broad support for the projects that we had
14 suggested. But the remaining funding that we have, we
15 certainly are going to implement according to the
16 flexibilities that are there. And what will happen is
17 some of these projects may be able to receive more funds,
18 we're going to concentrate more on infrastructure projects
19 that are located in disadvantaged communities. And we
20 believe the benefit of those infrastructure projects would
21 be that it may attract projects that would otherwise not
22 be there.

23 CHAIR NICHOLS: That makes sense.

24 BOARD MEMBER TAKVORIAN: I'm sorry. I just
25 wanted to make sure I understood. Do you mean future

1 funding or do you mean the remainder of the funding for
2 this year?

3 MR. MINASSIAN: The remainder of the funding for
4 this year.

5 BOARD MEMBER TAKVORIAN: So how much of this
6 year's funding is allocated by percentage.

7 MR. MINASSIAN: We have approximately allocated
8 half of it already, our Board has approved, and the
9 remaining half we are planning to do it by end of this
10 year.

11 BOARD MEMBER TAKVORIAN: Okay. And just so that
12 I completely understand. So that the list that you have
13 mapped in your -- on your website, that includes all of
14 the projects that you're currently considering for
15 funding?

16 MR. MINASSIAN: Yes.

17 BOARD MEMBER TAKVORIAN: And were -- how many --
18 what percentage of those are new projects that you added
19 to your list after the community workshops that you
20 conducted?

21 MR. MINASSIAN: After community workshops, we
22 just have actually concluded our community workshops. And
23 our Moyer solicitation is closing in first week of June.
24 So we will incorporate those in the remaining balance of
25 funding.

1 BOARD MEMBER TAKVORIAN: So they were all the
2 ones that you had before 617 was adopted --

3 MR. MINASSIAN: Yes.

4 BOARD MEMBER TAKVORIAN: -- is that right?

5 MR. MINASSIAN: Yes.

6 BOARD MEMBER TAKVORIAN: Okay. Thank you.

7 CHAIR NICHOLS: Thank you.

8 MR. MINASSIAN: Thank you.

9 CHAIR NICHOLS:

10 MR. RUSHING: Good morning. My name is Rocky
11 Rushing, and I'm representing Coalition for Clean Air.

12 I'm relatively new in this position and still
13 immersing myself in the particular language that you use
14 here at CARB. So I will be relying on prepared notes with
15 the Chair's indulgence.

16 California has some of the most polluted regions
17 in the nation, and residents of disadvantaged low-income
18 communities suffer disproportionately. As the Coalition
19 for Clean Air advocates for the immediate reduction of
20 emissions in underserved communities, we support the
21 proposed modifications to the Carl Moyer Program.
22 Proposed modifications are important to reaching the goals
23 of the Community Air Protection Program established in AB
24 617 of last year.

25 Using greenhouse reduction funds through projects

1 under the Carl Moyer Program will go a long way in
2 improving air quality in disadvantaged low-income
3 communities. CCA supports the strong community desire for
4 zero-emission technologies whenever feasible. However,
5 there are benefits to low-NOx technology when zero
6 emission options are not available.

7 In those instances, it makes sense to support
8 modifications to the Moyer Program, to facilitate
9 deployment of the cleanest combustion technologies
10 available, keeping in mind the goal of rapid emissions
11 reductions in impacted communities.

12 CCA agrees that impediments to participation in
13 the Moyer Program should be eliminated to better serve the
14 intent of AB 617. Eliminating funding caps and reducing
15 costs paid by grant applicants for community air
16 protection funds will generate increased participation,
17 especially from smaller fleets.

18 Because disadvantaged communities are often
19 located in close proximity to ports, warehouses, and
20 railyards, CCA supports efforts to reduce diesel engine
21 pollution at these freight hubs. To that end, we support
22 staff's proposal to clarify project eligibility for
23 transport refrigeration units and increase funding to 75
24 percent of project costs from 50 percent.

25 Also, CCA supports the proposed 10 percent

1 increase for infrastructure at freight transport
2 facilities. With an eye toward the future, CCA supports
3 long-term funding for Community Air Protection Program to
4 target the wide range of stationary and mobile sources of
5 local emissions.

6 Thank you so much.

7 CHAIR NICHOLS: Okay. Thank you.

8 MR. BARRETT: Good morning. I'm Will Barrett
9 with the American Lung Association in California. Our
10 organization has been deeply engaged in the 617 process
11 through the workshops, the technical forums, and the State
12 consultation group that Dr. Balmes chairs.

13 The Lung Association views this new era of
14 community focused air protection as an exciting
15 opportunity for State, local, and community partnerships
16 that can better address all types of pollution reduction
17 needs in the communities. We agree with the proposed
18 priorities established by staff with community input
19 playing a large role in that. We think that the focus on
20 supporting zero-emission technologies wherever possible is
21 key. Reducing barriers to community participation is very
22 important. Protecting our schools, hospitals and other
23 sensitive uses is really important.

24 Part of the program is to expand as well as
25 cleaning up the freight pollution issues especially in our

1 most impacted communities.

2 We encourage ARB staff to develop additional
3 outreach opportunities and assistance efforts going
4 forward to help communities develop local -- locally driven
5 projects, and strong grant applications that can help meet
6 those local needs. With the new opportunities available
7 under 617, we should be working to build off of the past
8 air district successes as noted, and really looking to
9 spur the transition to the zero-emission future that we
10 know we need to meet our air quality and climate goals.

11 Finally, basically, we just wanted to say we look
12 forward to working with you with the air districts to roll
13 this funding out as quickly as possible, to meet those
14 community needs using the new lens of 617.

15 I think Ms. Takvorian's point about reviewing and
16 shifting priorities based on the new 617 world view is
17 really important. And it will do more to address local
18 community input and local community needs going forward,
19 building off of past Moyer successes and looking to the
20 future to protect public health.

21 Thank you very much.

22 CHAIR NICHOLS: Thank you.

23 MS. ROEDNER SUTTER: Good morning, Katelyn
24 Roedner Sutter from the Environmental Defense Fund.

25 First, just thank you all for your work on this

1 program, both staff and Board members. EDF is very
2 supportive of the policy goals of AB 617 and this program
3 both in building off of existing air pollution
4 regulations, but especially going much further in
5 addressing cumulative burden in our most disadvantaged
6 communities in this state.

7 We urge both CARB and the local air districts to
8 implement this program in a manner where actual emission
9 reductions are achieved. EDF has a lot of experience in
10 air quality monitoring, which we think is very important.
11 But at the end of the day, we have to move that towards
12 real reductions.

13 We also need to prioritize community concerns and
14 engagement through every step of the design and
15 implementation of this program, which I think CARB has
16 taken significant steps to do, and we would like to see
17 this continue with the local air districts. We support
18 our public health and environmental justice colleagues and
19 the communities that they represent. They've been deeply
20 engaged in this process and think that their comments and
21 insight should be prioritized.

22 To that end, we think it's critical to ensure
23 that the vast majority of funding for the Community Air
24 Protection Program is directed to specific communities
25 with the greatest cumulative burden, and to address

1 sources specifically within those communities, both mobile
2 sources and stationary sources.

3 Air districts must rely on the input from local
4 communities in making these funding determinations. It's
5 important that these funds are used specifically to the
6 goals of AB 617, and this program and not just a
7 continuation of existing programs.

8 So I'd like to thank you again for your work and
9 your leadership on this, and we look forward to continuing
10 to support this program.

11 Thank you.

12 CHAIR NICHOLS: Thank you.

13 MR. GUSTAFSON: Chair and Board members. My name
14 is Ben Gustafson I work at Motiv Power Systems. I just
15 want to say thank you for the Board's staff work on the
16 current proposals. And we're very excited about the
17 opportunity to continue to advance cleaner technologies in
18 California.

19 Motiv manufactures medium- and heavy-duty zero
20 emission chassis, specifically used in any -- in various
21 body configurations, including transit buses, school
22 buses, and other work truck space. We are supportive of
23 the current proposals in the goals of Moyer and AB 617
24 helping to advance further penetration of clean technology
25 onto California roads.

1 I do want to urge the Board, along with their
2 partners at the air district to continue to strive for
3 efficiency and ease of use in the application of Moyer
4 Program funds. But in conclusion, I would like to say
5 thank you for the proposals. They will help advance clean
6 technology on California roads.

7 CHAIR NICHOLS: Thank you.

8 MR. GUSTAFSON: Thank you.

9 MS. GALE: Good morning, Board members. My name
10 is Genevieve Gale with the Central Valley Air Quality
11 Coalition. As always, I'm here to give the San Joaquin
12 Valley twist on this agenda item.

13 I'd like to briefly talk about the background of
14 the Carl Moyer Program in the valley and what's happening
15 now, and what we hope for in the future.

16 So in the past, almost \$500 million has been
17 spent in this program over the past two decades. Fifty
18 percent of that funding has gone toward ag pumps, so
19 mainly irrigation pumps, another 30 percent has gone
20 toward replacing agricultural tractors, and then eight
21 percent is on trucks and four percent on school buses.

22 Historically, this program has been run
23 first-come first-serve to change old diesel engines to new
24 diesel engines, bringing us to today. CVAQ is actually
25 working with the air district to host community workshops

1 across the valley. So CVAQ, as well as the Central
2 California Environmental Justice Network and the Central
3 California Asthma Collaborative working with the district
4 to host a community workshop in each county, all eight
5 counties, of the San Joaquin Valley.

6 And we are excited about this, because we're
7 hosting them in the evening, and we are coming to the
8 community. And we're helping people get there. We're
9 bringing food, interpretation services and child care.
10 And we've been hosting pretty lively discussions on where
11 this money, and how this money should be spent.

12 And we've only had three workshops thus far.
13 We've got a few more to go. But so far, the feedback has
14 been that this funding should go to -- should be
15 prioritized. So it shouldn't be run in a first-come
16 first-served, but a little more prioritization should be
17 involved.

18 And they'd like this funding to go to the
19 heavy-duty diesel trucks that they say in their
20 communities, as well as the diesel school buses that their
21 children ride on. They'd also like this funding to go
22 toward alternative fuels, so not diesel to diesel, but
23 diesel to something that has less -- that has no diesel
24 toxic PM.

25 And they'd also like this funding to be

1 prioritized in areas that have high diesel pollution,
2 which turns out to be the cities along the 99. But what
3 we're also hearing is that there should be set-aside for
4 the rural unincorporated communities that have been
5 historically neglected.

6 So we will be putting together a report from all
7 of the community input that we do receive, and we'll be
8 sending that to the district and to CARB. And hopefully
9 that will change some of the funding decisions to be made.
10 And in the future, speaking to our legislators in the
11 room, I hope that future 617 funding is we start to think
12 a little more outside the box. Because hearing from
13 community members, they're not just interested about ag
14 pumps, they're worried about pesticides, they're worried
15 about stationary sources, they're worried about the trucks
16 going up and down their roads. So in the future, if we
17 can have some of this funding be directly connected to the
18 emission reduction plans developed through AB 617.

19 Thank you.

20 CHAIR NICHOLS: Thank you.

21 MR. OTT: Good afternoon, Chairperson Nichols and
22 Board members. My name is Charlie Ott, and I'm the
23 Director of Transportation for Fremont Unified School
24 District, and don't want to be confused with my wife who
25 is also director of transportation at Antioch School

1 District also named Charlie Ott.

2 (Laughter.)

3 MR. OTT: So when she sends her email, there's a
4 question as to which Charlie Ott because you sounded
5 different last time.

6 (Laughter.)

7 MR. OTT: So if I get any calls, I'm just
8 clarifying up front.

9 (Laughter.)

10 MR. OTT: First of all, I'm speaking in support
11 obviously of AB 617. And I was here some 20 years ago
12 talking to the Board about compressed natural gas when I
13 was a director at Yuba City Unified School District. And
14 over and over again, I was told, you know, the air is not
15 dirt in Yuba City. So I had to come and say, please give
16 us some funding to help us out with compressed natural
17 gas.

18 And at the time, there were battles between
19 compressed natural gas and clean diesel and they had a
20 green bus parked out front and all kinds of things I
21 remember.

22 Well, I'm -- you know, it's been a very
23 successful program. And since that time, Yuba City has a
24 redundant CNG station, and 17 buses running on compressed
25 natural gas. I've long since been gone from there. I was

1 the director at Clovis Unified School District for the
2 last eight years, and also received support from San
3 Joaquin Valley Air Pollution Control District to do
4 redundancy on their compressed natural gas system, so that
5 we could continue to grow that fleet and continue in a
6 clean fashion.

7 And now I'm at Fremont. And I've proposed what I
8 believe is the first off-the-grid electric school bus
9 solar system. And so I just come here to say please
10 consider early adopters, because we take a lot of risk,
11 and that risk with CNG has been proven to payoff.

12 And now, we're ready to move forward -- I'm ready
13 to move forward to a different zero-emission fuel, and see
14 how that works. And I know a lot of folks in our industry
15 are really afraid to go this direction. It's not that
16 there's not some fear. But I think that if we don't do
17 it, we'll never know. And in our industry, we have to --
18 we have to take some of those risks.

19 So I appreciate everybody here that supported
20 this. Big shout out to Lina Patel and Tina McRee at Bay
21 Area Air Quality. They've been great in helping me. The
22 application process is much easier now, much better. I'm
23 not a book writer, so I appreciate some of that.

24 (Laughter.)

25 MR. OTT: And I'm happy to answer any questions

1 from a user standpoint if you have any.

2 CHAIR NICHOLS: Thank you for coming. We
3 appreciate it.

4 MR. OTT: Have a good day.

5 CHAIR NICHOLS: Thank you. And our last -- oh,
6 no, next to last witness. Sorry, we have one more who has
7 submitted a card.

8 MS. GOLDSMITH: Good morning, Chairwoman Nichols
9 and members of the Board. My name is Hannah Goldsmith.
10 I'm with California Electric Transportation Coalition.
11 And we support staff's proposed Community Air Protection
12 Fund Supplement to the Moyer Program guidelines. And we
13 appreciate staff's commitment to involve communities and
14 stakeholders in the development of this proposal.

15 Staff's four objectives that they outlined
16 corresponding supplement to the Moyer guidelines
17 effectively take into account stakeholder feedback, and
18 will help achieve immediate and lasting emissions in the
19 communities most impacted by air pollution, as required by
20 AB 617.

21 We look forward to continuing to work with staff
22 and the air districts as they continue the conversation
23 with communities to develop a long-term community air
24 protection incentive program and successfully implement AB
25 617.

1 Thank you.

2 CHAIR NICHOLS: Thank you. And our final witness
3 is from the Sacramento Air Pollution -- Air Quality
4 Management District. Sorry.

5 MR. LEMUS: Good morning, Chair and members of
6 the Board. I'm Jaime Lemus, senior manager at Sac Metro
7 Air Quality Management District.

8 We support the guidelines and efforts of AB 617.
9 As we also support the efforts of our partner districts to
10 reach attainment. Here, in Sacramento, we're actively
11 engaging with our communities. And there's a lot of
12 excitement about the potential projects for our region.

13 However, we do have to address the five percent
14 funding distribution among the remaining 32 air districts.
15 So we would like to request that a more equitable
16 statewide funding distribution be considered for the 18-19
17 proposed cap budget.

18 Thank you

19 CHAIR NICHOLS: Okay. Thank you.

20 That concludes the list of witnesses, and so we
21 can now have some discussion on this. There's -- we've
22 traveled a long way with the Greenhouse Gas Reduction Fund
23 and the Moyer Program to see these two things marrying up
24 now with a proposal to put a substantial amount of funding
25 that was generated as a result of greenhouse gas emissions

1 allowances that we've been tracking and pricing through
2 our Cap-and-Trade Program into community air quality
3 projects. And I think it's a good -- I think it's a good
4 move that's happened here.

5 But I do think it's important that we also keep
6 track of the impacts that these changes hopefully will
7 have on the overall emissions of greenhouse gases within
8 the State. And I'm not being -- I'm not only saying in
9 terms of the fuel economy of the new vehicles versus the
10 vehicles that they replace, or the amount of petroleum
11 that's displaced.

12 I'm also looking indirectly at the benefits of
13 what clearly is an effort to jump-start zero-emission
14 technologies, and to make them much more widely available
15 and help bring the cost down.

16 So before we get into a more detailed discussion
17 about how the money is going to be directed and tracked, I
18 really would like to ask staff if you are planning to.
19 And if not, if you will develop a methodology for
20 assessing the benefits of that the -- that the funding
21 will provide for both programs, because I think it's going
22 to be important as we go forward in the future the demand
23 for those funds just gets greater and greater to be able
24 to tell a story clearly.

25 Look at Steve Cliff, he looks like the guy who

1 wants to answer this question.

2 DEPUTY EXECUTIVE OFFICER CLIFF: Apparently, I
3 can't.

4 (Laughter.)

5 CHAIR NICHOLS: If he has a microphone.

6 DEPUTY EXECUTIVE OFFICER CLIFF: I'm actually
7 going to ask Jack to answer this.

8 (Laughter.)

9 MOBILE SOURCE CONTROL DIVISION CHIEF KITOWSKI:
10 Yeah. Yes. Thank you, Chair.

11 The tracking of the efficacy of the programs is
12 really important to us. And the -- we continuously
13 track -- continually track the Carl Moyer progress. We
14 have regular reporting on that.

15 But what you're talking about goes beyond that.
16 Climate change also has it's own set of reporting that's
17 done semi-annually. So those are gathered. But what I'm
18 hearing from you is actually we're interested in going
19 beyond that, and not -- I mean, yes, we need the numbers.
20 We need to know how many tons of this, and how many pounds
21 of that. But we also need assessments of the impacts of
22 these programs in moving the technology, and how we're
23 achieving. And we do that most often through the funding
24 plan. And we would be happy to incorporate that kind of
25 updates fairly regularly and progress updates on the

1 technology, in addition to the -- the actual numbers and
2 the benefits that are there.

3 CHAIR NICHOLS: Obviously, numbers are something
4 that you need and that we want to use as measurements, if
5 we possibly can. But what we're talking about really
6 transforming --

7 MOBILE SOURCE CONTROL DIVISION CHIEF KITOWSKI:
8 Right.

9 CHAIR NICHOLS: -- the transportation system of
10 the State of California. It seems to me we need something
11 a little more values oriented or perhaps some other met --
12 some different and better metrics. Maybe this is
13 something that some of our academic board members might
14 have some ideas about how to do. Okay.

15 Thank you.

16 MOBILE SOURCE CONTROL DIVISION CHIEF KITOWSKI:
17 Absolutely.

18 CHAIR NICHOLS: I know that there's an interest
19 here to give some clearer direction on how the funds are
20 to be sent. We had a letter from -- signed by a number of
21 members of the legislature. And since this legislation
22 that we're talking about, AB 617, is represented here on
23 the Board by its principal author, I'm wondering, Mr.
24 Garcia, if you would like to make some comments at this
25 time.

1 ASSEMBLY MEMBER GARCIA: Thank you, Madam Chair
2 and colleagues and those who have spoken in support of AB
3 617. Without a doubt, just as excited as many of those in
4 our communities to see this program get going, as well as
5 close to 50 colleagues of mine both in the Senate and the
6 Assembly who recently submitted a budget request for
7 funding this program for the coming year. And so paying
8 very close attention to not only this action, but also
9 what the community is highlighting as priorities in these
10 workshops that the staff have conducted up and down the
11 state of California.

12 So as I mentioned, you know, we are committed to
13 the funding aspect of the program moving forward. But a
14 couple of concerns have been raised by a handful of our
15 colleagues. And that has to do with the specific
16 targeting of disproportionately impacted communities. And
17 although that I'd like to say that, you know, the approach
18 I think that we're talking is no disadvantaged community
19 left behind approach.

20 There are, I think, circumstances where all
21 disadvantaged communities are not the same. And we know
22 that there are regions of the state that are far more
23 impacted than others. And I believe the expectation is
24 and has been that that's where we would begin rolling out
25 these investments.

1 And so I'd like to, you know, point to both the
2 letter that has been handed out regarding the budget, but
3 also a couple of suggestions that have been developed in a
4 resolution form to perhaps have this Board consider, have
5 some deliberation and discussion, consider upping the
6 percentage that is focused on disadvantaged communities.

7 AB 1550 has been, I think, a mechanism to try to
8 ensure that we encompass greater parts of the State when
9 it comes to investing these dollars. But there's
10 something to be said about the CalEnviroScreen that has
11 been also updated to really focus on what happens to be
12 the parts of the state that are disproportionately
13 higher impacted by pollution.

14 So I -- you know, I appreciate the work that's
15 been done. Certainly, I'd love to engage in a
16 conversation about the proposal that we put forward, that
17 is reflective of the sentiment of a handful of my
18 colleagues, both in the Assembly and in the Senate. And
19 thank you, Madam Chair, for the opportunity to share.

20 CHAIR NICHOLS: Thank you.

21 So Mr. Corey, I know you've been looking at some
22 possible language if the Board were to formally put it's
23 imprimatur on this idea of really making the commitment
24 more specific and making sure that it's substantial. So
25 do you have some language to read?

1 EXECUTIVE OFFICER COREY: I'm looking at the
2 language that Assembly Member Garcia circulated. Is that
3 in front of the Board members?

4 CHAIR NICHOLS: Okay. Oh, so we all have it.

5 EXECUTIVE OFFICER COREY: So I have -- but I do
6 have two minor suggested adjustments to it that I think
7 are in keeping with the spirit that Assembly Member Garcia
8 just communicated. And that would be -- and I'm talking
9 about the fourth paragraph there -- rather the third, the
10 now therefore be it resolved.

11 If you look at the fourth sentence and look
12 towards the end of the sentence, it refers to funding
13 benefits.

14 CHAIR NICHOLS: Um-hmm.

15 EXECUTIVE OFFICER COREY: I would say if you
16 added "low income" and "disadvantaged", because we're
17 finding that some of the low-income communities,
18 disadvantaged is explicitly tied to CalEnviroScreen.
19 We're identifying -- there are other communities that
20 we're identifying some areas that aren't necessarily
21 captured. By adding "low income", it would provide that
22 flexibility. That's one suggestion.

23 The other one is at the last sentence same
24 paragraph, towards the middle of the sentence it refers to
25 vehicles. After vehicles, if we added "and equipment", it

1 would open up the opportunity for some of the equipment at
2 ports, forklifts, some of the -- some of the equipment
3 that wouldn't necessarily be captured in the vehicle
4 definition.

5 BOARD MEMBER GIOIA: I have a question.

6 CHAIR NICHOLS: Question, yes.

7 BOARD MEMBER GIOIA: I want to make sure,
8 Richard, isn't what you're proposing already sort of
9 what's in the grant agreements, which is 80 percent going
10 to disadvantaged or low income? The way, in the staff
11 presentation, it was 80 percent to disadvantaged or low
12 income with at least 50 percent to disadvantaged. How are
13 you changing that in what you just said?

14 EXECUTIVE OFFICER COREY: By adding low income, I
15 am conforming a focus on low income and disadvantaged
16 communities. The concern I had was if it says
17 disadvantaged in 80 percent, I'm not capturing the low
18 income element.

19 BOARD MEMBER GIOIA: No. Right. But I'm just
20 trying to understand the staff presentation says --

21 BOARD MEMBER SHERRIFFS: Slide 7.

22 BOARD MEMBER GIOIA: Pardon?

23 BOARD MEMBER SHERRIFFS: Slide 7.

24 BOARD MEMBER GIOIA: Yes, which is also -- I
25 actually -- I have a copy of the grant agreement, because

1 I wanted to see what it looked like for the Bay Area,
2 it -- which actually says 80 percent must go to a
3 disadvantaged or a low income community with at least 50
4 percent to one of the identified disadvantaged
5 communities. So --

6 CHAIR NICHOLS: So this would just be reiterating
7 what was on that aside.

8 BOARD MEMBER GIOIA: -- what you're saying
9 doesn't -- I just want to be clear. It sounds like what
10 you -- the language you just said for the resolution
11 doesn't change --

12 EXECUTIVE OFFICER COREY: That's correct. It's
13 consistent.

14 CHAIR NICHOLS: -- what's in the staff proposal.

15 RESEARCH DIVISION ASSISTANT CHIEF COREY: It's
16 Consistent.

17 BOARD MEMBER GIOIA: Okay. So the question,
18 right, is whether -- actually, one question I have. I
19 noticed that -- this is a procedural question. The grant
20 agreements have already been signed, but we haven't acted
21 yet on this. So I'm just wondering why the grant
22 agreement setting this forth with the districts of the 50
23 percent and the 80 percent language has already been
24 signed with the districts, but we haven't yet acted on it?

25 CHAIR NICHOLS: Jack, can you comment on that.

1 BOARD MEMBER GIOIA: Can you -- just to explain,
2 yeah.

3 CHAIR NICHOLS: No, please, Mr. Kitowski.

4 MOBILE SOURCE CONTROL DIVISION CHIEF KITOWSKI:

5 Yeah. Certainly. There was a balance in
6 attempting to get the money out as quickly as possible --

7 BOARD MEMBER GIOIA: Right.

8 MOBILE SOURCE CONTROL DIVISION CHIEF KITOWSKI:

9 -- in order to benefit the disadvantaged --
10 benefit disadvantaged communities --

11 BOARD MEMBER GIOIA: Right.

12 MOBILE SOURCE CONTROL DIVISION CHIEF KITOWSKI:

13 -- as quickly as possible. The language in the
14 statute was actually very specific about the amount of
15 money that went to certain air districts --

16 BOARD MEMBER GIOIA: Right.

17 MOBILE SOURCE CONTROL DIVISION CHIEF KITOWSKI:

18 -- and what it could be used for in the Carl
19 Moyer Program. So we were reinforcing that. None of the
20 flexibility options that you're voting on today were in
21 our grant agreements. So we would go back and modify
22 grant agreements too --

23 BOARD MEMBER GIOIA: Right. Okay. So if we
24 change any of these --

25 MOBILE SOURCE CONTROL DIVISION CHIEF KITOWSKI:

1 -- based on the Board's input.

2 BOARD MEMBER GIOIA: -- numbers today - I just
3 want to be clear - you'd go back and re-execute the grant
4 agreements with the three local air districts? At least I
5 see the from the Bay Area. Presumably, the other ones
6 have been executed. So I just want to -- we have -- we
7 have the flexibility here if we want to change some of
8 these percentages. Like, we could say I -- 80 percent at
9 disadvantaged or low income, and we could have the 50
10 percent minimum to disadvantaged be something higher? It
11 could be 60, could be 70? It doesn't have to be 80. I
12 know, Assembly Member Garcia has proposed that it be 80
13 percent minimum in disadvantaged communities.

14 I actually think maybe someone in between could
15 make some sense. I mean, I was looking at the maps for
16 the Bay Area. Clearly -- and I'm familiar most with the
17 Bay Area - other parts of the state may have similar
18 concerns - is we have a pretty finite number of
19 disadvantaged communities in the Bay Area, and actually a
20 number of them are in the district I represent in the
21 county.

22 And we -- the air district in the Bay Area has
23 also identified, what we call, care communities, which are
24 low-income communities that are highly impacted by
25 pollution, but for a number of reasons don't come within

1 the definition of a disadvantageded community.

2 So we want to make sure we have flexibility to
3 provide -- to prioritize some of those communities as
4 well. So maybe, and -- but I do agree that disadvantageded
5 communities, which are the most highly impacted deserve
6 most of the money. Maybe a suggestion is that instead of
7 in this resolution, I mean, we already say it's 80 percent
8 must be low income or disadvantageded. But maybe instead of
9 80 percent as the Assembly Member is proposing for
10 disadvantageded, we look at something between 60 to 70
11 percent. So we've raised that level to disadvantageded
12 communities, still leaving flexibility for the other
13 impacted communities.

14 So that was just a thought that gets us a higher
15 percent, but still leaves room for these other low-income
16 communities that are highly impacted. So I just was going
17 to suggest that, if -- for the Board's consideration, if
18 we -- if we wanted to go down that road.

19 CHAIR NICHOLS: I'm not responding directly to
20 your comment, but in a more general way saying I think
21 this is very hard, because what we're trying to do is
22 change priorities. And as the line of questioning that
23 Ms. Takvorian was raising earlier, you can take a list of
24 projects and you can adjust it. You can tweak the
25 description to the projects and make it look like you've

1 changed the way you're doing business without actually
2 changing anything.

3 And at the same time, if you're really trying to
4 change, it may not always be possible to hit an arbitrary
5 number, because the number is, by definition, always, to
6 some extent, it's going to exclude some people who deserve
7 help, or really need the help, or who could utilize the
8 funds more quickly or more beneficially or whatever.

9 So I think we're -- this is going to be imperfect
10 no matter what. And I guess I would want to err on the
11 side of giving the kind of direction that's going to cause
12 people to really change what they're doing more than --
13 you know, than the accounting exercise at the end. But
14 I'm not sure we know how to do that effectively. That's
15 really an issue that perhaps those of you in local
16 government have a better sense of than I do.

17 BOARD MEMBER GIOIA: I mean, I do think -- I'll
18 just speak in my experience as a member of a local air
19 district, that -- that the staff at the local air
20 districts, you know, are very good at understanding how to
21 get the information out, and then folks in these
22 communities ultimately apply. And so the number we set
23 will have a tangible difference on where the money goes.
24 And again, let me just -- don't get me wrong. I think
25 this proposal before us is great.

1 The question is whether we raise the
2 disadvantaged community number slightly higher. I don't
3 think raising it to 80 percent just because we need
4 flexibility in the Bay Area with other impacted
5 communities that are low income and just not within the
6 Enviroscreen definition, but higher than -- focusing and
7 putting more money in this early round on those high
8 disadvantaged communities does make senses. It shows, you
9 know, good faith.

10 So it's a policy call how much -- but it will --
11 it will make a tangible difference, because it -- you
12 know, the staff at the air districts will draw the line at
13 how the funding is distributed that way. So I don't think
14 it's academic where we set it. It will make a difference
15 which communities get the money.

16 CHAIR NICHOLS: So how do you propose you
17 would -- how would you propose to change the language
18 then?

19 BOARD MEMBER GIOIA: Well, the -- the language
20 then in the resolution, and I -- it could -- and again, I
21 was putting out there a range of somewhere between say --
22 we could say 65. It could be two-thirds of the money.

23 CHAIR NICHOLS: Um-hmm.

24 BOARD MEMBER GIOIA: Basically, 65 percent of all
25 funding benefits to disadvantaged communities, including

1 the language, "vehicles and equipment". And that would
2 mean that -- it still means 80 percent have to go to low
3 income. So in a sense 15 percent would have to go to
4 minimum- to low-income communities. And the other 20
5 could also go into these communities or not, depending on
6 the needs, right? But it would mean 65 percent instead of
7 50.

8 CHAIR NICHOLS: I hear you.

9 BOARD MEMBER GIOIA: Yeah. That's just a
10 thought.

11 CHAIR NICHOLS: Thank you. No, no. That's a
12 good suggestion. Anybody else care to comment on the
13 question?

14 Ms. Berg.

15 VICE CHAIR BERG: I'm moving away from the
16 percentages and really looking at the last paragraph,
17 where we're really being a little more prescriptive in
18 prioritizing zero-emission vehicles or infrastructure
19 wherever feasible. And I just want to make sure all the
20 discussion we've had about the communities coming together
21 and directing some of these needs, that we are not then
22 being prescriptive in taking that out of their hands. And
23 I just wondered if staff could comment on that
24 perspective?

25 BOARD MEMBER GIOIA: Yeah, and you've added the

1 term "equipment" into -- in addition to vehicles, right?

2 CHAIR NICHOLS: Um-hmm.

3 BOARD MEMBER GIOIA: And the question -- just to
4 say, local air districts regulate stationary sources, the
5 question is whether, right, are there -- were we
6 anticipating eligibility for certain types of stationary
7 sources, if they're publicly owned, let's say, and --

8 CHAIR NICHOLS: Charging stations.

9 EXECUTIVE OFFICER COREY: The expectation in 617
10 was that -- and as communities were identified, and
11 community reduction programs are established, there would
12 be stationary actions, not just regulations, but incentive
13 programs. But the first year, as Chairman Nichols called
14 out, the real incentive, intent was to move those monies
15 quickly. And that's why the legislature in the trailer
16 bill language called out Moyer, which really was a mobile
17 source focused program.

18 BOARD MEMBER GIOIA: Right. Right.

19 EXECUTIVE OFFICER COREY: So the first year was
20 really --

21 BOARD MEMBER GIOIA: Got it.

22 EXECUTIVE OFFICER COREY: This first tranche is
23 mobile source --

24 BOARD MEMBER GIOIA: Right.

25 EXECUTIVE OFFICER COREY: -- with the debate or

1 the discussions that are taking place under the 18-19
2 budget are to broaden the scope of the 16-17 --

3 BOARD MEMBER GIOIA: -- Got it. Right.

4 EXECUTIVE OFFICER COREY: -- 617 to capture
5 stationary as well.

6 CHAIR NICHOLS: But within the mobile source
7 area, there could be funding that goes towards fueling for
8 mobile sources.

9 EXECUTIVE OFFICER COREY: To enable the
10 technology --

11 CHAIR NICHOLS: Yes.

12 EXECUTIVE OFFICER COREY: -- the infrastructure
13 could be part of it, that's correct.

14 BOARD MEMBER GIOIA: And that would be station --
15 a stationary source.

16 CHAIR NICHOLS: That's a stationary source.

17 BOARD MEMBER GIOIA: So you meant this language
18 to be less prescriptive, right? It may say vehicles,
19 equipment, and, you know, appropriate stationary sources.

20 CHAIR NICHOLS: Ms. Takvorian.

21 BOARD MEMBER TAKVORIAN: Thank you. So I just
22 want to appreciate the staff's work to increase the
23 flexibility, and respond to the community concerns, and to
24 benefit the disadvantaged communities.

25 I think this is really a challenge as I think our

1 Chair has said, because of the speed with which this
2 legislation was developed, and the speed with which CARB
3 is respond -- required to unfold and evolve this program.
4 So I really appreciate that you have gone back and thought
5 about it and responded to community concerns.

6 I support Assembly Member Garcia's recommended
7 changes to underscore those principles that you all
8 articulated. I think that it is tough to make change, and
9 that we -- you know, this may not be the right thing to
10 say, but I think that it reminds me of affirmative action,
11 in that it was tough to change.

12 And that means that there's going to have to be
13 more and better community outreach, different kinds of
14 community outreach. I mean, we can't use the same systems
15 that we've been using. And I appreciate that you all have
16 been saying, and districts have been saying we're doing
17 differently. You know, we're providing child care. We're
18 providing translation. We're doing things that we haven't
19 done before.

20 We're going to have to really engage trusted
21 messengers, people who are relating to communities. So
22 all of that has got to change. And so I think with a
23 higher target, it does make us stretch. And I appreciate
24 Supervisor Gioia's thoughts about that. And I just think
25 it's really important that we push far away from the

1 business as usual, to your point, Madam Chair. I just
2 think that's essential.

3 And that's why I was asking the questions. I
4 don't think anybody wants to do that, but we've got all
5 these kind of competing priorities.

6 So this, Assembly Member Correct me if I'm wrong,
7 was identified as the environmental justice bill that was
8 going to push ahead and benefit communities that are most
9 disadvantaged. And so I think we have to reach a little
10 bit further, and that's what I think this -- this action
11 does.

12 So I would say I would hope that we can include
13 that, and also ensure -- and I think you said this, but I
14 think this is the question at the end of the statement,
15 that districts are required to really consult with
16 communities about the priorities that they're picking. I
17 know they have already, but some of them are setting up
18 these steering committees, or whatever they're calling
19 them. So is that right, that they would come back with
20 that list and would present, as Mr. Minassian did, to say
21 what the priorities are? Is that the plan, and is that
22 written into the grant agreements?

23 EXECUTIVE OFFICER COREY: Each of the districts
24 are required, as she said, to engage and have been. We
25 have weekly calls with the districts in terms of the

1 engagement with the communities, the selection of the
2 projects, as well as beyond the grant agreement an annual
3 reporting - there was some talk about this - to the agency
4 and an annual report back to this Board on implementation
5 of 617, including how those dollars are being used and
6 what they're being -- what the benefits are that we're
7 seeing.

8 BOARD MEMBER TAKVORIAN: Right. I think I'm just
9 asking for a little bit more, which is how is the steering
10 committee responding -- the local steering committee is
11 responding to the list that the districts are generating,
12 and is that incorporated in this -- in the grant
13 agreements?

14 MOBILE SOURCE CONTROL DIVISION CHIEF KITOWSKI:

15 Yeah, there are -- there are requirements in the
16 grant agreements for the districts, as you've said, to --
17 as we've talked about to do the outreach associated, not
18 just with this funding, but, you know, the broader -- it's
19 part of the broader AB 617 program that is happening.

20 And so that outreach is occurring. They are --
21 districts are then required to report back. We are on
22 their project lists, and how their project lists are tied
23 to the community messages that they've been hearing. And
24 we review that as part of any requests to get additional
25 funding.

1 DEPUTY EXECUTIVE OFFICER KAPEROS: If I could
2 add on to that, Ms. Takvorian. We did have a
3 conversation -- by example, we did have a conversation
4 with the San Joaquin Valley Air District, when we looked
5 at their initial list for projects, and indicated that we
6 thought they needed to rethink some of the prioritization
7 in that list. We received a new list from them yesterday.
8 I have not myself seen it, but I think a first look at it
9 says that it is really starting to reflect some of the
10 priorities that we heard the testimony from CVAQ that's
11 coming out of the community groups that they're working.
12 So I think that dialogue is working.

13 BOARD MEMBER TAKVORIAN: Okay. That's great.
14 And so maybe that's a part of -- I think what I'm getting
15 at is there's the community consultation and there's the
16 reporting, and there's that piece in between, which is
17 how -- how did -- how does the report reflect what they
18 heard in the community. And if it's from CARB, that's
19 great. If it's from the steering committee, that's great.
20 I think that's the piece, because I know that local
21 communities are struggling overall with the 617 program of
22 where's the decision making. The steering committees are
23 being set up. People are organizing. They're showing up.
24 They're saying what they need. Where is that going?

25 You know, who's -- how is that affecting decision

1 making. So I think I'm just trying to fill that gap to
2 see how the changes are being made.

3 If that could be incorporated in the grant
4 agreements, that would be great.

5 EXECUTIVE OFFICER COREY: Yeah, I'm actually --
6 my -- that's actually what I'm thinking in terms of this
7 discussion that capturing it in the grant agreement,
8 because they are establishing those consultation groups in
9 a characterization of how the feedback from those
10 consultation groups was reflected.

11 BOARD MEMBER TAKVORIAN: Yeah, exactly. Thank
12 you.

13 CHAIR NICHOLS: So is this language that you
14 could incorporate into the next round of grant agreements?

15 EXECUTIVE OFFICER COREY: They modified the
16 existing grant agreements.

17 CHAIR NICHOLS: They modified the existing grant
18 agreements; even better. Okay.

19 BOARD MEMBER TAKVORIAN: Yes, thank you.

20 CHAIR NICHOLS: Let's do it. Let's do it.

21 Okay. So I think I'm hearing no dissent and a
22 fair amount of agreement that we should formally adopt the
23 resolution language that was proposed here this morning.

24 And the only question is, do we want to modify
25 that 50 percent minimum for the 80 percent to make it a

1 higher percentage, make it 65 percent.

2 Is there any objection to doing that?

3 Mr. Garcia, do you have a concern about it?

4 ASSEMBLY MEMBER GARCIA: I just wanted to point
5 out that I appreciate the supervisor's suggestions and
6 certainly open to a number that is somewhere in between
7 the 80 percent.

8 Also wanted to point to the 4th paragraph,
9 appropriated in accordance to feedback. I think it was
10 brought to my attention that we should strike too and use
11 the word "'with' feedback received during community
12 outreach." But I wanted to just really bring it back to,
13 you know, why, you know, 617 was a real focal point of our
14 conversations last year, and a desire to really refine our
15 targeting efforts in specific locations that are again
16 disproportionately impacted. And so we can't lose sight
17 of really that being the focal point. And when we attempt
18 to modify these percentages, it really is to -- that word
19 "equity" that we use quite often in here about -- you
20 know, regularly to really make up for some of the lack of
21 under-investments that have taken place. And so I
22 appreciate the discussion and deliberation and certainly
23 the entertaining of a possible motion to move this item
24 forward.

25 BOARD MEMBER GIOIA: Your additional comments

1 made me want to support 70.

2 (Laughter.)

3 CHAIR NICHOLS: Okay. Would you like to make --
4 would you like to propose a resolution, Supervisor Gioia?

5 BOARD MEMBER GIOIA: Sure. All right. So I'll
6 just move that we take the language that Assembly Member
7 Garcia submitted in the proposed amendment. So the 80
8 number would be changed to 70, and that we're adding -- I
9 want to make sure I'm capturing Richard's comments we're
10 adding in that third paragraph, focus on vehicles,
11 equipment. And are we saying "appropriate stationary
12 sources"? Or how would you word that? I wanted to make
13 sure I accommodate -- pardon?

14 Infrastructure.

15 CHAIR NICHOLS: Related.

16 BOARD MEMBER GIOIA: What would you suggest,
17 Richard, without opening it up too much?

18 EXECUTIVE OFFICER COREY: My suggestion would
19 be -- I think "related equipment" works because it
20 captures infrastructure and non-vehicle.

21 BOARD MEMBER GIOIA: Got it. So "vehicles and
22 related equipment" would be -- and then we're
23 incorporating the suggestion by Member Takvorian with
24 regard to the collusion -- with the commun -- did you have
25 specific language or --

1 BOARD MEMBER TAKVORIAN: I don't.

2 BOARD MEMBER GIOIA: We were going to include it
3 in the Grant agreements.

4 CHAIR NICHOLS: Right.

5 EXECUTIVE OFFICER COREY: And I understood that
6 direction here.

7 BOARD MEMBER GIOIA: Good. Okay.

8 The one question I will have before I finalize
9 is -- I assumed the grant agreement incorporates the
10 guidelines that we have. Because I looked at the grant
11 agreement; I didn't see a specific reference to the
12 guidelines. Because wouldn't the air districts -- because
13 there's more detail in the guidelines we have before us,
14 in addition to the language in the grant agreement. Can
15 we incorporate the guidelines by reference?

16 EXECUTIVE OFFICER COREY: Your point is right on.
17 We'll make sure that there's a clear handshake. I think
18 the language is there. If it's not, it will be.

19 BOARD MEMBER GIOIA: I think -- yeah, I mean,
20 while I trust local air districts, there's a certain
21 element of not, you know, having served on a local air
22 district, a full trust, you know.

23 (Laughter.)

24 BOARD MEMBER GIOIA: So it's like trust -- you
25 know, it's verify. So it would be great to incorporate by

1 language the guidelines. So that would be my motion.

2 CHAIR NICHOLS: All right. Do we have a second?

3 VICE CHAIR BERG: Second.

4 CHAIR NICHOLS: All right. All those in favor
5 please say aye.

6 (Unanimous aye vote.)

7 CHAIR NICHOLS: Any opposed?

8 Any abstentions?

9 All right. Thank you.

10 This is not a formal regulatory item. So I think
11 we've done what we need to do here by approving overall
12 the recommendations as well as the -- subjecting it to the
13 resolution.

14 So -- yes.

15 BOARD MEMBER SHERRIFFS: I'm sorry. Is this an
16 appropriate time to consider integrating that branding
17 question, or is that -- is there going to be another time
18 that we should be doing that? Because I think it's a huge
19 opportunity for a variety of reasons, and we want to --

20 MOBILE SOURCE CONTROL DIVISION CHIEF KITOWSKI:

21 Yeah, I can jump in on that question.

22 The Carl Moyer program has been around for a long
23 time, and it did not have a branding component to it.
24 More recently the climate change investment funds have
25 come along and we have worked hard to put a branding

1 component associated with climate change investments.
2 These two are intersecting at this. So, yes, I think it's
3 a good idea. We probably need a little more time to think
4 it through in how to do it. It's not part of the current
5 grant agreements. But we can absolutely spend some time
6 looking at that and seeing what we can do.

7 CHAIR NICHOLS: Certainly when there's press
8 announcements or posting of our grants on our website, we
9 always do it. But the point about how to you make our
10 trucks and buses into mobile advertising platforms is one
11 I think needs a little more work.

12 BOARD MEMBER SHERRIFFS: Well, advertising
13 educational platforms.

14 CHAIR NICHOLS: Thank you.

15 BOARD MEMBER SHERRIFFS: And maybe at this time
16 in fact we can encourage air districts to consider that
17 and the ways to incorporate the climate investments logo
18 into the work they're doing; and that, yes, that hopefully
19 over the next few months you'd develop something more
20 formal for us.

21 MOBILE SOURCE CONTROL DIVISION CHIEF KITOWSKI:
22 Absolutely. We'd be glad to look at it.

23 CHAIR NICHOLS: I think this would be a good
24 subject to engage CAPCOA on as well, because it is a
25 statewide issue. So.

1 Okay. Thank you for reminding us. It's a good
2 point and it is about education.

3 All right. The second item on our agenda this
4 morning is the consideration of our proposed 2018 through
5 2021 Triennial Strategic Research Plan and the specific
6 proposals for the Fiscal Year 2018-19.

7 So, while the staff is switching in the back row
8 there, I'm going to ask Mr. Corey to give any initial
9 comments that you have.

10 EXECUTIVE OFFICER COREY: Yes. Thanks, Chair
11 Nichols.

12 So today staff will present the research
13 initiatives describe in the proposed 2018 through 2021
14 Triennial Strategic Research Plan. The goal of this plan
15 is to guide research funding for the next three fiscal
16 years, improve coordination, provide greater involvement
17 and responsiveness in the planning process, and provide
18 increased flexibility to changes in our budget.

19 The research initiatives in the plan were
20 developed in an open public process in consultation with
21 stakeholders and research partners.

22 Our prior plans have covered just one year.

23 This plan, by looking ahead three years, is
24 intended to provide a broader view of our research needs.
25 There's 16 projects proposed for fiscal year 2018-19, the

1 first year of this three-year plan.

2 The list of proposed projects was developed from
3 a public solicitation research ideas and supplemented by
4 discussions with program staff, stakeholders, and other
5 State and federal agencies and experts in these fields of
6 study. If approved by the Board, the projects described
7 in the plan will be developed into full proposals, and
8 then brought back to the Board for your consideration over
9 the next several months.

10 I'll now ask Sarah Pittiglio of the Research
11 Division to give the staff presentation.

12 Sarah.

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

15 MS. PITTIGLIO: Thank you, Mr. Corey.

16 Good morning, Chair Nichols and members of the
17 Board.

18 Today I'll provide an explanation of our new
19 triennial research planning process and objectives. We
20 are asking the Board to approve the proposed research
21 projects for Fiscal Year 2018-19, which include the budget
22 of \$4 million for 16 projects.

23 --o0o--

24 MS. PITTIGLIO: In the past, staff has developed
25 annual research plans, but we are now shifting to

1 Triennial Strategic Plans that will describe priority
2 research initiatives that we intend to cover over the next
3 three years.

4 The initiatives in the plan are high-level areas
5 of research that represent groups of projects. These
6 initiatives will guide our annual selection process for
7 individual projects. And the projects may be fulfilled
8 through in-house research or funded through external
9 contracts.

10 An new triennial plan will be presented to the
11 Board every three years, but we will still bring a list of
12 research projects to the Board for approval each fiscal
13 year.

14 --o0o--

15 MS. PITTIGLIO: We'd like to thank Dr. Balmes and
16 Professor Sperling for their guidance in improving our
17 research development process, including our communication
18 of research results via the newsletter and other
19 mechanisms.

20 We'd also like to thank the members of the public
21 and representatives we've met with from the environmental
22 justice community for their input and willingness to take
23 the time to engage in our new process.

24 This plan is the most effective way for us to
25 communicate our research priorities going forward on air

1 quality, climate, environmental justice, and public health
2 with other funding organizations, stakeholders, and
3 research who respond to our public calls for proposals.

4 The development of the plan made it clear that
5 our research needs far exceed our current budget of
6 \$4 million. However, we are now better prepared to
7 effectively collaborate with other funding institutions or
8 react if our budget expands in the future.

9 We view this plan as a living document since we
10 will undoubtedly need to respond to emerging challenges
11 and future mandates that may require us to shift or
12 broaden our research priorities. But our research
13 planning process gives us a framework react quickly
14 effectively.

15 --o0o--

16 MS. PITTIGLIO: Today we're asking the Board to
17 approve the project descriptions we've developed, but we
18 will come back to the Board later this year for approval
19 of these projects once we've identified researchers and
20 finalized the full proposals.

21 --o0o--

22 MS. PITTIGLIO: There are multiple opportunities
23 for the public and interested stakeholders to provide
24 input in this process, which begins with the collection of
25 research concepts from an open public solicitation.

1 Research concepts are then prioritized through
2 internal and external coordination meetings with
3 stakeholders, including State and federal agencies, air
4 districts, environmental justice community members, and
5 other research entities.

6 Every three years we will hold a public workshop,
7 as we did this January, to solicit input on the
8 development of the initiatives for the triennial plans.

9 Large or complex projects are assigned technical
10 advisory panels made up of experts, stakeholders, and
11 community representatives.

12 --o0o--

13 MS. PITTIGLIO: Long-term monitoring data in EJ
14 communities and non-EJ communities have shown that ambient
15 levels of diesel PM and PM2.5 are declining. However,
16 these pollutants continue to be higher in EJ communities.

17 Additional research is needed to identify hot
18 spots and the sources of these remaining disparities,
19 track the progress of pollution mitigation strategies, and
20 add monitoring capabilities for other issues of concerns
21 such as toxic metals and odors.

22 --o0o--

23 MS. PITTIGLIO: In order to explain the research
24 initiatives described in this plan, I'm going to use these
25 timelines to describe our past, current, and future

1 research initiatives. I begin in 2000 extend to 2025, by
2 which time projects initiated by this plan will be
3 completed.

4 These high-level research initiatives represent
5 groups of projects on a given topic. The red bars
6 indicate initiatives that began recently or will start
7 now, while the blue bars indicate initiatives that have
8 either concluded or are currently in progress and will
9 continue to be a priority in the future.

10 Prior research has shown that low socioeconomic
11 status populations have greater sensitivity to air
12 pollution. New research will focus on the health impacts
13 of short-term exposures to toxic and improve methods of
14 communicating the health impacts of real-time air quality
15 data.

16 You'll notice a series of white papers this year.
17 White papers are low-cost summaries of the state of
18 current research on a given topic and describe the
19 remaining research gaps. We will identify researchers to
20 develop these white papers through our normal solicitation
21 process.

22 The inclusion of white papers this year was
23 prompted by a suggestion from Professor Sperling - thank
24 you - as a way to identify research gaps on topics we have
25 not previously funded.

1 This first white paper will develop a research
2 roadmap for the development of a 1-hour PM2.5 standard.

3 --o0o--

4 MS. PITTIGLIO: CARB's in-house work on exposure
5 disparities in disadvantaged communities, designated by
6 the blue bar, has highlighted the need to focus on
7 identifying the sources of these disparities, which is
8 designated by red bar. And several projects on this topic
9 were initiated this fiscal year and this topic will remain
10 a priority in the future.

11 --o0o--

12 MS. PITTIGLIO: Research is also expanding to
13 include innovative methods to address pollutants of
14 concern. This year we will fund white papers on
15 monitoring methods for odors and emission inventories for
16 toxic polycyclic aromatic hydrocarbons. Our in-house work
17 and partnerships with NASA will use satellite data to help
18 screen for high PM2.5 levels in disadvantaged communities.

19 --o0o--

20 MS. PITTIGLIO: Past CARB research with
21 socioeconomic experts on the environmental justice
22 screening method led to the development of
23 CalEnviroScreen. This line of research will expand to
24 focus on the cumulative impacts of exposure to multiple
25 and environmental stressors in addition to air pollution

1 with two new projects. Our in-house research will conduct
2 a pilot study to measure total exposure to air pollution
3 and noise for residents in disadvantaged communities.

4 These projects will help to develop cumulative
5 impact indicators to be incorporated into future versions
6 of CalEnviroScreen

7 --o0o--

8 MS. PITTIGLIO: CARB's past research on the
9 impact of exposure to air pollution in vulnerable
10 populations has evolved to inform how sustainable
11 communities can provide net benefits for health. This
12 year, a project on the impact of PM exposure on multiple
13 health metrics will support this goal.

14 --o0o--

15 MS. PITTIGLIO: Research to identify the sources
16 of toxic gases and particles and their impacts on health
17 in a variety of outdoor and indoor environments will
18 continue to be a priority going forward. It is
19 particularly important to understand the health
20 implications of evolving vehicle and building
21 technologies.

22 --o0o--

23 MS. PITTIGLIO: Exposure mitigation work is
24 primarily focused on urban design features and
25 technologies to remove particles that impact health. This

1 work will continue to provide guidance to local planners
2 and advance policies, such as improved filtration
3 requirements into the State's building code.

4 --o0o--

5 MS. PITTIGLIO: CARB will continue to support
6 research to refine emission inventories and improve air
7 quality models to support the development of state
8 implementation plans.

9 Going forward, ozone research will focus on the
10 impact of baseline ozone on regional air quality to
11 support regulatory development. This is increasingly
12 important as local emissions are reduced.

13 --o0o--

14 MS. PITTIGLIO: PM2.5 research will focus on the
15 identification and mitigation of sources of PM2.5 in the
16 San Joaquin Valley. This year, laboratory experiments
17 will help to determine how consumer products contribute to
18 the formation of secondary organic aerosols, which are a
19 major component of PM2.5. An in-house project will use
20 CARB's mobile monitoring platform to measure ammonia
21 emissions from agriculture activities and the efficacy of
22 technologies designed to capture methane.

23 --o0o--

24 MS. PITTIGLIO: Light-duty research will continue
25 to employ a variety of methods, including remote sensing

1 and on-road portable emission measurement systems. This
2 work will support enforcement efforts, inform inventory
3 estimates, and guide future regulatory development.

4 --o0o--

5 MS. PITTIGLIO: Previous research improved our
6 understanding of how well emission controls performed and
7 informed the midterm review of the Advanced Clean Cars
8 program. But research will now focus on the discrepancies
9 between real-world and laboratory emissions to inform
10 certification standards. A new project will measure
11 non-exhaust sources of PM on major roadways. Work done
12 in-house will provide activity data on real-world fuel
13 economy and energy use.

14 --o0o--

15 MS. PITTIGLIO: In the heavy-duty sector past
16 efforts focused on the effectiveness and durability of
17 emission control technologies, and tracked the results of
18 the drayage and truck and bus rules. Ongoing research
19 will inform certification standards and provide
20 information on the optimal design of a heavy-duty
21 inspection and maintenance program.

22 --o0o--

23 MS. PITTIGLIO: Another priority is to reduce
24 emissions from off-road equipment and identify strategies
25 to improve efficiencies in the freight sector. A new

1 project will compare Tier IV off-road diesel engines -
2 with and without aftertreatment - to explore the impact of
3 decreasing the Tier IV PM standard.

4 --o0o--

5 MS. PITTIGLIO: Our climate research has been
6 responsive to key legislation that has set greenhouse gas
7 mitigation targets.

8 A priority going forward is to identify
9 mitigation options for dairies, since they are a
10 significant source of methane.

11 --o0o--

12 MS. PITTIGLIO: Our tower network and
13 multi-agency collaborations will continue to track the
14 progress of current programs and regulations to reduce
15 greenhouse gas emissions.

16 --o0o--

17 MS. PITTIGLIO: To continue to refine the State's
18 emission inventory a new project will update the number of
19 units and emission characteristics for small refrigeration
20 air conditioning systems. And we will continue our
21 collaborations with the Energy Commission and NASA on the
22 ground-level and airborne monitoring of methane.

23 --o0o--

24 MS. PITTIGLIO: Our sustainable community
25 research will continue to track progress towards meeting

1 the goals of SB 375. A new project will incorporate
2 additional metrics into tools that identify disadvantaged
3 communities, including access to clean transportation and
4 jobs, transportation costs, and indicators of health.

5 A second project will determine how current
6 integrated land-use and transportation planning models
7 account for induced travel and identify methods to improve
8 the modeling of its impact.

9 CARB will continue to evaluate greenhouse gas
10 reductions that result from declining vehicle miles
11 traveled as well as from more sustainable land-use
12 patterns and from buildings themselves.

13 A new project will develop a framework to track
14 and evaluate the impact of congestion management
15 strategies on greenhouse gas and criteria pollutant
16 emissions as well as equity.

17 --o0o--

18 MS. PITTIGLIO: We've included cross-cutting
19 topics to highlight our prioritization of the development
20 of strategies that reduce greenhouse gases, air toxics,
21 and criteria pollutants simultaneously.

22 Past natural and working lands research has
23 focused on mitigating greenhouse gas emissions from crops,
24 and the potential to create renewable fuels from forest
25 and agricultural waste biomass. New research will

1 identify regional strategies to ensure that the use of
2 organic waste in urban and rural environments helps
3 California achieve its air quality and climate goals.

4 --o0o--

5 MS. PITTIGLIO: Transportation research will
6 continue to make sure that the use of advanced
7 technologies such as electrification, automation, and
8 vehicle sharing results in emission reductions. A new
9 project will look at the potential to hybridize and
10 electrify off-road equipment used for agricultural and
11 construction activities.

12 Economic research aims to evaluate and minimize
13 the economic impacts of CARB's programs and optimize the
14 use of incentive funds. A new project will determine how
15 fleet type, size, and location influences turnover in
16 order to inform incentive programs.

17 --o0o--

18 MS. PITTIGLIO: We recommend that you approve the
19 research projects for Fiscal Year 2018-19. If the
20 projects are approved today, staff will work with our
21 research partners to develop full proposals. We will then
22 return to the Board to request approval and funding for
23 each individual project.

24 Thank you.

25 CHAIR NICHOLS: Thank you.

1 We have no one who signed up to testify on this
2 item, which may relate to the fact that we're only talking
3 about \$4.2 million.

4 (Laughter.)

5 CHAIR NICHOLS: I can't help point out the fact
6 that for a program which relies, as we do, so heavily on
7 science, and we're talking about peer-reviewed,
8 independent, high-quality science -- there's other science
9 that we use and other science that we refer to of course
10 that isn't just generated by us -- but the science that we
11 ourselves fund and have funded over the years has been
12 responsible for leveraging many, many times more
13 investments in the real world than anything that we've put
14 into it.

15 And I'm just speaking of commercials here. I
16 would like to give a commercial for the State's research
17 program and to suggest that it's an area that would be
18 worthy of greater attention in the future.

19 Yes. Anybody else want to add to that
20 cheerleading?

21 BOARD MEMBER SHERRIFFS: No, I just -- it's an
22 incredible value; and in many ways I think for all the
23 things we do, this is the biggest bang for the buck. It
24 really puts us on the right footing as we try to craft
25 policies to achieve our health aims and our climate aims

1 and our air pollution reduction, and it's -- and it's
2 information that's available to everybody.

3 CHAIR NICHOLS: Right.

4 BOARD MEMBER SHERRIFFS: You know, it has
5 national and global impact. And it's -- yeah. Well, I'm
6 ready to offer more money if I ever have the opportunity.

7 CHAIR NICHOLS: Okay. I think we need to
8 actually approve this if we do -- yes.

9 Any other comments or questions?

10 I'm really pleased to see this three-year plan.
11 It is a strategic plan. It really is strategic. I think
12 we can thank Professor Sperling at least in good part for
13 that.

14 So, would you like to say something?

15 BOARD MEMBER SPERLING: Well, I'm not sure how
16 much of a role I had in that. But it is -- you know, I do
17 want to endorse the idea that spending \$4 million on
18 research for an agency that is -- you know, prides itself
19 in being technically grounded, you know, science based --
20 I mean, I have to say even my small institute at UC Davis
21 spends a lot more money than that just by itself just on
22 transportation.

23 So, you know, it really is, as some say, budget
24 dust, but -- so we'll leave that.

25 But it is really important. I just do want to

1 endorse what the staff is doing here. I think this is
2 really important, thinking a little bit more
3 strategically, a little more long term. The environment
4 in which we're operating is changing and the mission of
5 the agency is changing. We're focused much more on
6 environmental justice issues. We're focused much more on
7 climate issues. We're focused much more on understanding
8 linkages. You know, so much of what CARB used to do was
9 very technical fixes, you know, to the tailpipe, to the
10 oil refineries. And now we're looking at challenges much
11 broader, and we can't be siloed in how we think about it
12 and understand it and act on it.

13 So, this is -- we're going in the right direction
14 here. You know, the resources are pretty pitiful, but it
15 is going in the right -- in a process sense it's going in
16 the right direction. So I do support the staff. And if I
17 could, you know, double or triple or quadruple the
18 funding, I'd endorse that.

19 (Laughter.)

20 BOARD MEMBER SPERLING: But I feel good about
21 where we're headed here.

22 CHAIR NICHOLS: There is a proposal to -- that's
23 under consideration at least, to take \$25 million from
24 this year's allocation for the GGRF, the greenhouse gas
25 funds, and direct it to research. That was not earmarked

1 in any way as intended I think to be -- to have a plan
2 developed, but I hope ARB will also be actively involved
3 in that effort as well.

4 Mrs. Riordan.

5 BOARD MEMBER RIORDAN: Yes. I was thinking and
6 hoping that staff could also partner with other entities
7 for some of this research. And there are even districts
8 that have -- or had - I can't speak for today - but had
9 you know sizable research budgets. And maybe there's some
10 opportunities to maximize that. And I know over the years
11 the staff in the research department has been able to do
12 that, and hopefully we can continue to do that. And it
13 would, you know, again make the dollars go further, and
14 hopefully get some of these projects accomplished before
15 they're -- you know, the final date.

16 And I certainly support the going after a
17 three-year plan, because I remember when it was just one
18 after one after one. Now this is -- you know, we know
19 where we're going and know what we need. And it may take
20 some time to affect some of those partnerships. You just
21 can't do them overnight. Sometimes that takes a long
22 time.

23 Thank you.

24 CHAIR NICHOLS: Thank you.

25 I would say that historically the research budget

1 took a very big hit during the really bad economic times,
2 because it was all funded out of general fund money. It's
3 one of our very few areas where we don't have any access
4 to any kind of special fund.

5 And I do think it's time to reconsider that and
6 to put forward some thoughts about how to deal with that
7 issue for the next fiscal year.

8 So with that --

9 VICE CHAIR BERG: Madam Chair --

10 CHAIR NICHOLS: Yes.

11 VICE CHAIR BERG: -- I'll go ahead and move the
12 Resolution 1816, with my thanks to staff. Great
13 presentation and great work.

14 BOARD MEMBER SHERRIFFS: Second.

15 CHAIR NICHOLS: And there's a second.

16 All in favor please say aye.

17 (Unanimous aye vote.)

18 CHAIR NICHOLS: Any opposed?

19 Any abstentions?

20 Great. Thank you.

21 Thank you. Good job.

22 Okay. You're really on a roll today.

23 (Laughter.)

24 CHAIR NICHOLS: You must have had an extra cup of
25 coffee on your way up here. That's all I can think of.

1 Okay. The next two items are going to be
2 considered together. I just want to underscore that we're
3 going to be hearing two different items at the same time.
4 One is the Low Carbon Fuel Standard Regulation and some
5 proposed amendments to that, and the Alternative Diesel
6 Fuels Regulation; and there's a related item, which is a
7 voluntary NOx mitigation measure. The two are closely
8 aligned in terms of the topics. So it seemed like a
9 sensible idea just to hold the hearing jointly and hear
10 comments at the same time.

11 I think we'll just get started. I don't know how
12 long the staff presentation is actually scheduled to take
13 place. But just for people who are planning their day's
14 activities, do we have an estimate here?

15 EXECUTIVE OFFICER COREY: It's about 25
16 minutes -- 20, 25.

17 CHAIR NICHOLS: So we can certainly go through
18 the staff presentation and hopefully begin on the public
19 comments, and then take our lunch break somewhere along in
20 the middle there.

21 Okay. Very good.

22 The Low Carbon Fuel Standard - for those who may
23 have wandered into this meeting for some other reason - is
24 a key part of the portfolio of AB 32 policies that achieve
25 greenhouse gas reductions in the transportation sector.

1 And indeed it's one of our most innovative measures in our
2 whole portfolio.

3 Since the Board's original adoption of the Low
4 Carbon Fuel Standard in 2009 the program has worked very
5 well; in fact, I would say better than expected. And a
6 wide variety of low-carbon fuels have actually come into
7 the market, have proved their commercial feasibility, and
8 begun to be deployed in large volumes.

9 Since 2011 alternative fuels covered by the Low
10 Carbon Fuel Standard, or LCFS as we call it, along with
11 similar programs in Oregon and British Columbia, have
12 provided as much transportation energy as nine billion
13 gallons of gasoline and diesel while avoiding 31 million
14 tons of greenhouse gas emissions.

15 In response to the increased 40 percent
16 greenhouse gas reduction target of California's 2016
17 Senate Bill 32, and in line with the strategy that was
18 laid out in our 2017 Climate Change Scoping Plan to
19 achieve that target, staff has developed some amendments
20 to strengthen the LCFS. These amendments propose adopting
21 a 20 percent reduction in fuel carbon intensity by 2030,
22 and expanding the credits for fuels, vehicle types, and
23 other innovative actions such as carbon capture and
24 sequestration that can reduce transportation-related
25 greenhouse gas emissions.

1 In response to the Governor's Executive Order
2 B-48-18, to boost zero-emission vehicles in
3 infrastructure, the amendments are designed to further
4 incent the installation of additional ZEV fueling
5 infrastructure supplied by renewable electricity.

6 So more incentive for other types of
7 zero-emission vehicle fueling, and that would include of
8 course both electricity and hydrogen.

9 We will be paying close attention to all of the
10 written comments as well as today's testimony. This is
11 the first of two hearings. A second hearing for this item
12 is tentatively scheduled for September of this year.

13 And the Board will consider adoption of these
14 amendments and any additional changes that come out of
15 today's hearing at that second hearing.

16 Hopefully that's enough of an explanation of the
17 process for the moment.

18 So, Mr. Corey, would you please introduce the
19 item.

20 EXECUTIVE OFFICER COREY: Yes, thanks, Chair
21 Nichols. And as you stated, staff is proposing that the
22 Board adopt amendments to the Low Carbon Fuel Standard, or
23 LCFS, and the alternative diesel fuels, or ADF,
24 regulations.

25 The purpose of the Low Carbon Fuel Standard

1 regulation is to reduce the carbon intensity of
2 transportation fuels used in California, thereby reducing
3 greenhouse gas emissions, and to diversify the fuel pool
4 to enable long-term decarbonization of the transportation
5 sector.

6 The Low Carbon Fuel Standard is one of several
7 California programs designed to reduce GHG emissions from
8 transportation by improving vehicle technology, reducing
9 fuel consumption and carbon content, and increasing
10 transportation options. Under the Low Carbon Fuel
11 Standard, actual consumption of alternative fuels has
12 exceeded both CARB and the industry projections. The
13 primary objective of this rulemaking, as you noted, is to
14 strengthen the compliance targets of the Low Carbon Fuel
15 Standard regulation through 2030. So that the Low Carbon
16 Fuel Standard continues to serve as a key policy driver to
17 reduce GHG emissions from the transportation sector.

18 Achieving the GHG reduction goals of SB 32 will
19 require significant reductions from all sectors.
20 California's transportation industry remains the largest
21 contributing sector to the GHG inventory. Yet many
22 low-carbon fuels with demonstrated feasibility are
23 available today at scale.

24 The proposed 2030 Low Carbon Fuel Standard
25 targets will signal the market to identify the most

1 promising long-term low-carbon fuel solutions and invest
2 in these alternatives to ensure greater reductions beyond
3 the next decade in order to help avoid the catastrophic
4 impacts of climate change.

5 Distinct from these proposed amendments but
6 related to an ongoing litigation challenge to the Low
7 Carbon Fuel Standard, staff is proposing that the Board
8 take action today to approve implementation of a voluntary
9 NOx remediation measure.

10 I'll now ask Anthy Alexiades to begin the staff
11 presentation. Following Anthy's presentation of the
12 proposed amendments, Gabriel Monroe will cover the
13 voluntary NOx remediation measure.

14 Anthy.

15 (Thereupon an overhead presentation was
16 Presented as follows.)

17 AIR RESOURCES ENGINEER ALEXIADES: Thank you, Mr.
18 Corey. Good morning Chair Nichols and members of the
19 board.

20 We're pleased to have this opportunity to present
21 staff's proposal on the amendments to the Low Carbon Fuel
22 Standard and the regulation on the commercialization of
23 diesel fuels.

24 --o0o--

25 AIR RESOURCES ENGINEER ALEXIADES: In today's

1 presentation, we'll first provide some perspective on the
2 current status and achievements of the program to date.

3 Then we'll describe the objectives and go over the
4 details of the major proposed amendments to the
5 regulation.

6 Next we'll review the results of the
7 environmental and economic analyses.

8 And finally, we'll look ahead at the proposed
9 timeline for this rulemaking and implementation of the
10 amended rule.

11 --o0o--

12 AIR RESOURCES ENGINEER ALEXIADES: The LCFS is
13 one of the key AB 32 measures designed to reduce the
14 carbon intensity of transportation fuels used in
15 California, and to diversify the fuel pool to enable
16 long-term dramatic decarbonization of the transportation
17 sector.

18 Since the Board's original adoption of the LCFS
19 in 2009, the basic framework of the program has worked
20 well and continues to support growth in an increasingly
21 diverse low-carbon fuel pool.

22 In the first year of LCFS compliance the only
23 fuels with any significant market share were ethanol and
24 natural gas.

25 Today, we see significant use of biodiesel,

1 renewable diesel, biomethane, and electricity as viable
2 low-carbon transportation fuels.

3 The liquid diesel substitutes meet about 13
4 percent of total diesel demand, and biomethane has
5 replaced over 67 percent of natural gas used in vehicles.

6 Credits in 2017 were generated primarily from
7 ethanol, biodiesel, renewable diesel, and to a lesser, but
8 growing extent, from biomethane and electricity.

9 --o0o--

10 AIR RESOURCES ENGINEER ALEXIADES: The LCFS
11 program has provided significant investment in low-carbon
12 fuels.

13 The value of LCFS credits issued in both 2016 and
14 2017 was close to a billion dollars per year.

15 The monthly average credit price has ranged
16 between 75 and nearly \$140 per metric ton since the Board
17 re-adopted its regulation.

18 --o0o--

19 AIR RESOURCES ENGINEER ALEXIADES: For the past
20 several years, overcompliance with the LCFS has occurred
21 as fuel providers have brought more low-carbon fuel into
22 California's market than required to comply with the
23 program. This has created a robust bank of credits which
24 provides regulated parties with flexibility across
25 compliance years.

1 --o0o--

2 AIR RESOURCES ENGINEER ALEXIADES: Now let's turn
3 to the proposed amendments.

4 In this rulemaking staff proposes to strengthen
5 the program's targets to help achieve the 2030 statewide
6 greenhouse gas target of Senate Bill 32.

7 In addition, by adding crediting opportunities in
8 strategic applications, we can help advance innovative
9 greenhouse-gas-reducing technologies, including
10 alternative jet fuel, zero-emission vehicle
11 infrastructure, and carbon capture and sequestration.

12 --o0o--

13 AIR RESOURCES ENGINEER ALEXIADES: In 2017, the
14 carbon intensity of all transportation fuels used in the
15 State was 3.5 percent below the 2010 baseline.

16 The existing regulation targets a CI reduction of
17 10 percent by 2020 that remains fixed for all subsequent
18 years.

19 The proposed amendments would strengthen this
20 target to 20 percent by 2030. To achieve the 2030 target,
21 we've proposed a linear decline of 1.25 percent annually
22 from the 2018 benchmark.

23 Maintaining steady carbon intensity reductions
24 will enable us to achieve the more stringent target, while
25 reducing the probability of unnecessary short-term

1 increases in credit price.

2 For comparison, these targets are shown next to
3 the range and average percent CI reductions that have been
4 achieved by the most common low-carbon fuels to illustrate
5 how these fuels currently perform relative to our proposed
6 targets.

7 Each of these fuels has the potential to
8 contribute significantly to meeting our 2030 goals.

9 --o0o--

10 AIR RESOURCES ENGINEER ALEXIADES: Staff
11 developed modeling scenarios to estimate potential fuel
12 volumes and credit generation through 2030.

13 We made this information accessible to the public
14 early on in our process, and our scenario calculator
15 allowed stakeholders to explore different assumptions and
16 provide helpful feedback.

17 The proposed amendments retain the compliance
18 flexibility that's a hallmark of California's innovative
19 climate programs. Therefore, it's not possible to predict
20 the exact path of fuels used for future compliance.

21 The model results are illustrative but provide a
22 better understanding of sensitivities to key variables
23 such as LCFS credit prices and the success of synergistic
24 State and federal policies in achieving additional ZEV
25 adoption, VMT reduction, and fuel economy improvements.

1 The figures on this slide represent one of
2 several scenarios developed by staff and provided with the
3 rulemaking package. We anticipate substantial growth in
4 all low-carbon fuels and continued efforts to reduce CI to
5 meet our 2030 goal.

6 --o0o--

7 AIR RESOURCES ENGINEER ALEXIADES: Aviation is a
8 significant and growing source of greenhouse gas
9 emissions.

10 We propose to allow alternative jet fuel to
11 generate credits as a voluntary opt-in fuel under the
12 LCFS. Conventional fuel would not be subject to the
13 regulation.

14 We have also proposed other minor changes, such
15 as removing the current regulation's exemption for propane
16 used in transportation. This would require the reporting
17 of fossil propane and would allow renewable propane to opt
18 in as a voluntary credit generating fuel.

19 --o0o--

20 AIR RESOURCES ENGINEER ALEXIADES: The
21 combination of zero-carbon electricity and zero-emission
22 vehicles offers significant opportunity for reductions
23 that are not well recognized by the program today. To
24 address this, we propose to allow renewable power
25 generated off-site to be used in EV charging and hydrogen

1 production by electrolysis.

2 We're also proposing an option to recognize the
3 benefits of shifting EV charging and electrolyzer loads to
4 periods of time when excess renewable electricity might
5 otherwise be wasted.

6 These amendments are intended to be a first step
7 in promoting further expansion of zero-emission vehicle
8 infrastructure through the LCFS as directed by the
9 Governor's executive order. It would help make these
10 vehicles fully zero emission on a life cycle basis.

11 --o0o--

12 AIR RESOURCES ENGINEER ALEXIADES: Several
13 avenues exist for refineries and crude producers to
14 implement projects with significant greenhouse gas
15 reductions. But few such projects have generated credits
16 under the LCFS to date.

17 The proposed amendments would focus these
18 provisions on innovative technologies while continuing to
19 allow a limited amount of credits to be generated through
20 efficiency gains or process improvements.

21 A list of qualifying actions is provided in the
22 proposed regulation in order to clearly signal the types
23 of innovative technological advancements CARB would like
24 to see in petroleum fuels as a result of the LCFS.

25 We also proposal altering the quantification

1 method to improve accuracy and ensure the claimed
2 reductions are verifiable.

3 --o0o--

4 AIR RESOURCES ENGINEER ALEXIADES: As we
5 implement strategies to meet our 2030 target, we must also
6 keep an eye on how we'll meet our 2050 greenhouse gas
7 emission reduction goals.

8 The California Council on Science and Technology
9 found that almost all strategies to achieve our state's
10 2050 goals will require Carbon Capture and Sequestration,
11 or CCS.

12 Studies conducted by Intergovernmental Panel on
13 Climate Change, the International Energy Agency, and
14 others show that CCS is also needed to meet the goals of
15 the Paris agreement, and can reduce costs to reach those
16 ambitious targets.

17 Biofuels have strong opportunities to integrate
18 this technology into their pathways.

19 We estimate that a typical corn ethanol facility
20 could potentially reduce its CI score by more than 40
21 percent by capturing the CO2 that's generated during
22 fermentation, and permanently storing it underground.

23 --o0o--

24 AIR RESOURCES ENGINEER ALEXIADES: In the 2015
25 LCFS rulemaking, CARB clarified that CCS projects would be

1 recognized under the LCFS upon the adoption of a
2 Board-approved quantification methodology and permanence
3 requirements.

4 The proposed CCS protocol includes rigorous
5 requirements to ensure accurate accounting and permanence
6 of the CO2 sequestration with monitoring for 100 years
7 post-injection.

8 Both the capture facility and the storage
9 facility must be co-applicants to ensure that all entities
10 are legally responsible for ensuring permanence.

11 The protocol would allow credit generation for
12 CO2 that's captured from biofuel production, from crude
13 oil and refineries, and through direct air capture.

14 In addition to sequestration in saline aquifers,
15 projects sequestering CO2 during enhanced oil recovery are
16 also proposed to be allowed under the protocol.

17 However, the proposed protocol includes
18 requirements that are above and beyond business-as-usual
19 practices, and only the enhanced oil recovery projects
20 that are most protective of the environment and nearby
21 communities will qualify for credits under the LCFS.

22 --o0o--

23 AIR RESOURCES ENGINEER ALEXIADES: A system for
24 independent third-party verification is needed to ensure
25 the accuracy of reported data.

1 The proposed framework is consistent with the
2 verification systems that support CARB's Cap-and-Trade
3 program.

4 Under staff's proposal, CARB is the accreditation
5 body. All verification bodies and individual verifiers
6 would obtain accreditation by CARB to perform verification
7 services.

8 CARB could modify, suspend, or revoke
9 accreditation if needed.

10 This is necessary to ensure that verifiers are
11 qualified and provide verification services consistent
12 with LCFS requirements.

13 --o0o--

14 AIR RESOURCES ENGINEER ALEXIADES: In response to
15 a 2017 Court of Appeal opinion, CARB developed a
16 supplemental environmental analysis that was included in
17 the rulemaking package.

18 Our analysis used the latest information from our
19 diesel inventory including projections that better reflect
20 the off-road engine fleet and incorporate the latest years
21 volume projections.

22 Overall, staff found that increased use of
23 biodiesel and renewable diesel due to the LCFS results in
24 statewide health improvements.

25 We also found that NOx increases may have

1 occurred in some past years, and might occur in future
2 years in the off-road sector.

3 Although there were overall health benefits,
4 staff conservatively proposes to address the potential NOx
5 increases in two ways:

6 Through funding measures to promote diesel engine
7 turnover, to remediate potential historical NOx; and

8 To avoid future increases, we propose
9 strengthening the Alternative Diesel Fuels regulation.

10 The ADF regulation imposes restrictions to
11 prevent certain biodiesels from causing any significant
12 new emissions.

13 Under the current regulation, the biodiesel NOx
14 mitigation provisions will sunset when the on-road fleet
15 transitions to engine technologies that's not affected by
16 biodiesel use.

17 The proposed change would delay the sunset until
18 the off-road fleet transitions as well.

19 Through the 15-day change process, we'll consider
20 bifurcating the sunset provision for biodiesel used in
21 on-road and off-road vehicles.

22 It's also worth noting that several new and
23 increasingly cost-effective NOx mitigation additives and
24 other NOx mitigation methods have recently been certified
25 under the ADF regulation. It's possible that these

1 solutions will quickly achieve more widespread adoption
2 and render this analysis especially conservative.

3 --o0o--

4 AIR RESOURCES ENGINEER ALEXIADES: The prior
5 slides explained the key areas where staff is seeking to
6 strengthen and improve the regulation.

7 This slide summarizes the other changes included
8 in the proposal.

9 Several improvements were made to simplify and
10 streamline the process of pathway certification, and to
11 clarify reporting requirements and allowable calculation
12 methods in preparation for third-party verification.

13 We also made minor updates to the carbon
14 intensity models; and we proposed adjustments to enhance
15 credit market function, oversight, and integrity.

16 --o0o--

17 AIR RESOURCES ENGINEER ALEXIADES: We'll turn now
18 to the results of the environmental and economical
19 analyses.

20 We believe the proposed regulation will produce
21 the correct incentives for long-term decarbonization of
22 California's transportation fuels, and achieve an
23 estimated 70 million metric tons additional greenhouse gas
24 emission reductions by 2030 as compared to the
25 business-as-usual scenario.

1 --o0o--

2 AIR RESOURCES ENGINEER ALEXIADES: The Draft
3 Environmental Analysis of the proposed amendments to the
4 LCFS and ADF regulations was released in March, and the
5 final analysis will be presented when we return to the
6 Board.

7 Staff has concluded that the use of alternative
8 fuels results in overall air quality and health benefits
9 for the State.

10 However, localized environmental impacts across a
11 variety of media, including local air emissions, cannot be
12 ruled out; but project-level impacts may be reduced or
13 mitigated by local land use and permitting agencies for
14 individual projects.

15 --o0o--

16 AIR RESOURCES ENGINEER ALEXIADES: In the
17 economic analysis of the proposed amendments, staff
18 determined that from a macroeconomic level the impacts are
19 negligible:

20 By 2030, the California economy is projected
21 grow. And the impact of the proposed amendments amounts
22 to the economy taking less than one month longer to grow
23 to the expected Gross State Product.

24 The economic benefits are also minor relative to
25 the state's economy as a whole, but significant to the

1 low-carbon fuel industry.

2 We also explored the impact of adding third-party
3 verification and determined that it does not change the
4 economic impacts of the rule significantly.

5 Verification costs are expected to be low
6 relative to the compliance costs for fossil fuel
7 producers, and compared to the value of LCFS credits for
8 low-carbon fuel producers.

9 --o0o--

10 AIR RESOURCES ENGINEER ALEXIADES: In the
11 development of this proposal over the past two years,
12 staff held 22 public workshops and working meetings with
13 stakeholders.

14 Based on stakeholder comments received in the
15 45-day period leading to today's hearing, we anticipate
16 the need for at least one 15-day formal comment period
17 allowing additional changes to the proposed regulation
18 before the second hearing.

19 We plan to return to the Board for the second
20 hearing on this item in the fall.

21 We'd like the proposed changes, if adopted by the
22 Board and approved by the Office of Administrative Law, to
23 go into effect starting January 1, 2019.

24 Under the proposed implementation timeline, the
25 updated CI tools will be used in new fuel pathway

1 applications in 2019, and existing pathways would have
2 until the end of 2020 to updated to the new model.

3 Third-party validations of fuel pathway
4 applications would begin to be required in 2020.

5 The first verifications conducted by third
6 parties would take place in 2021 for 2020 data, and
7 third-party verifiers would provide verification
8 statements to CARB by August 31st.

9 --o0o--

10 AIR RESOURCES ENGINEER ALEXIADES: At this time
11 point I'll ask Gabriel Monroe from our legal office to
12 introduce the proposed funding measure related to the
13 legal challenge.

14 Thank you.

15 Gabriel.

16 ATTORNEY MONROE: Thank you, Anthy. Good
17 afternoon -- good morning, Chair Nichols and members of
18 the Board.

19 (Laughter.)

20 ATTORNEY MONROE: As Anthy mentioned a few
21 moments ago, the regulatory amendment package before the
22 Board today for discussion includes amendments to the ADF
23 regulation to ensure future NOx mitigation of any
24 potential LCFS-driven biodiesel increases.

25 In addition to and separate from the proposed

1 amendment package including the ADF amendments, staff
2 recommends that the Board today authorize immediate
3 implementation of voluntary NOx remediation funding. This
4 initiative would go beyond any potential legal
5 requirements to address potential historic statewide NOx
6 emission increases that could be conservatively attributed
7 to past LCFS implementation.

8 This is consistent with CARB's ongoing
9 complementary efforts and mission to promote and protect
10 public health and welfare through the effective and
11 efficient reduction of air pollutants.

12 --o0o--

13 ATTORNEY MONROE: This proposed initiative would
14 provide funding to air districts to achieve additional NOx
15 reductions subject to criteria modeled on the Carl Moyer
16 Program guidelines, primarily by promoting diesel engine
17 turnover.

18 The discussion document developed by staff in
19 response to the most recent POET court order
20 conservatively identifies potential historic NOx emission
21 increases that could be attributed to LCFS
22 incentivisation. The past potential NOx
23 emissions have dispersed and are gone. Staff analysis
24 concluded that taking into account PM reductions,
25 biodiesel use results in overall statewide health

1 benefits, and that the increases in biomass-based diesel
2 use driven by the combined implementation of the LCFS and
3 the ADF cumulatively result in overall long-term NOx
4 emissions reductions.

5 --o0o--

6 ATTORNEY MONROE: Nevertheless, staff recommends
7 that the Board take action today to remediate potential
8 historic LCFS NOx emissions by seeking additional future
9 reductions in the amount of conservatively estimated past
10 emissions.

11 Beginning this voluntary initiative now using
12 available Fiscal Year 2017-2018 funding through the
13 recommended Board action would allow CARB to support
14 districts in achieving additional needed statewide NOx
15 emissions reductions.

16 --o0o--

17 ATTORNEY MONROE: Thank you all for your
18 attention. This concludes the staff presentation on these
19 two items.

20 CHAIR NICHOLS: Thank you. We have a very long
21 list of witnesses.

22 Does the court reporter need a short break at
23 this point?

24 You can go on?

25 All right. Well, let's continue then. If we can

1 start with the witnesses. That would be beginning with
2 Mr. Abbs.

3 And I think we should go until 12:00, and then
4 we'll take a break.

5 Okay. Thanks.

6 CAPCOA EXECUTIVE DIRECTOR ABBS: Good morning,
7 Chair Nichols and members of the Board. Alan Abbs from
8 CAPCOA, here to support the mitigation program as proposed
9 by staff.

10 We worked with staff on the proposal and believe
11 that using the Carl Moyer process and specifically the
12 State reserve process for Moyer funding is a way to get
13 projects completed fast in districts where most of the
14 excess NOx emissions were likely to have occurred.

15 And so, yes, we support staff proposal on that.

16 Thank you.

17 CHAIR NICHOLS: Thank you.

18 MS. SOLECKI: Good morning. Pleased to be here.
19 Mary Solecki with AJW.

20 And like many other stakeholders here, AJW's been
21 working on the LCFS since its inception, and we are
22 committed to its success and longevity in California, as
23 well as other jurisdictions with current or prospective
24 programs. We're pleased to reflect with you on the many
25 successes of the LCFS to date.

1 Technology neutrality of this program in
2 particular has allowed it to withstand some political and
3 outside pressures. I'd like to encourage your continued
4 vigilance of the technology neutrality of the LCFS. Other
5 jurisdictions, including the midwest, are considering
6 their own programs or could be considering them sometime
7 soon. And as political times change for us in California,
8 the guiding principle of technology neutrality can allow
9 the program to continue to thrive.

10 Alongside our client, iGEN Corporation, we
11 submitted a detailed comment letter on the draft ISOR.
12 I'd like to briefly call your attention to a couple of the
13 areas we highlighted in our letter.

14 Number 1: Dairy digesters offer the potential
15 for carbon intensity values as low as negative 250 grams
16 of CO2 and the co-benefit of meeting the state's
17 short-lived climate pollutant goals. However, the draft
18 ISOR may present some barriers to new projects. We would
19 like to optimize the process for new dairy digester
20 projects that will also help with the state's methane
21 reduction.

22 Number 2: Cost-containment mechanism. We know
23 that having a robust price ceiling is important to this
24 Board. Howev -- or today's LCFS credit prices are strong,
25 and that's a good thing for the program. However, there

1 are additional measures that ARB should take to strengthen
2 the cost-containment mechanism before the ceiling gets
3 tested.

4 We look forward to working with staff to address
5 the details underpinning each of these issues and
6 continuing our collaboration with your staff.

7 Thank you.

8 CHAIR NICHOLS: Thank you.

9 MR. COOPER: Good morning, Chairman Nichols and
10 members of the Board. My name is Geoff Cooper. I'm with
11 the Renewable Fuels Association, which is the nation's
12 leading trade association representing ethanol producers.

13 Under your leadership, the LCFS has been a
14 remarkable success. And I know it's probably a little
15 surprising to hear those words come out of our mouth given
16 some of our past positions on the program. But, you know,
17 ethanol has played a significant role in the success story
18 to date, and we appreciate the evolving relationship that
19 we've had with your organization.

20 Nearly half of all the LCFS credits generated to
21 date have come from domestically produced ethanol, as you
22 saw from some of charts that were shown earlier. And if
23 we look at credits just in the gasoline pool, ethanol has
24 accounted for more than 80 percent of those credits.

25 So the LCFS in our view has created the incentive

1 necessary to drive the innovation and investment that has
2 resulted in these reduced greenhouse gas emissions from
3 the ethanol industry.

4 ARB has certified carbon-intensity pathways for
5 some producers that are now 40 to 50 percent below the
6 carbon intensity of gasoline. And the data released by
7 ARB yesterday showed that the average ethanol carbon
8 intensity in the fourth quarter of last year was 31
9 percent below gasoline. Average ethanol, 31 percent.

10 As the ARB now considers adoption of more
11 ambitious LCFS targets, I am here to express our support
12 for the program and for actions that will support
13 achievement of the long-term CI reduction goals under
14 consideration today.

15 We fully understand the Board's commitment to
16 zero-emission vehicles. But as California progresses in
17 that direction, we believe ethanol can contribute to
18 further decarbonization of the remaining use of liquid
19 combustion fuels. Higher ethanol blends beyond today's
20 norm of 10 percent could significantly reduce GHG
21 emissions from the liquid fuels pool, while reducing
22 petroleum consumption.

23 One analysis that we've provided to ARB staff
24 shows that even a modest increase in the ethanol blend
25 level could provide an additional 15 to 19 million metric

1 tons of CO2 reduction cumulatively by 2030.

2 But significant volumes of low CI ethanol are
3 being left out of the California market due to various
4 regulatory barriers, leaving California motorists with few
5 options at the pump other than gasoline. So we're asking
6 for the opportunity to continue working with your staff to
7 bring together appropriate stakeholders in discussions
8 aimed at identifying options for decarbonizing the
9 remaining use of liquid combustion fuels in California.

10 We also address a number of technical comments,
11 implementation issues in our written comments and look
12 forward to working with staff on those issues.

13 I would like to kind of piggyback on the last
14 commenter and her note on technology neutrality. We
15 believe that it's very important for this body to ensure
16 that the technology-neutral focus of the program is
17 maintained.

18 Thank you very much.

19 CHAIR NICHOLS: Thank you.

20 MS. LEVIN: Good morning. Julia Levin with the
21 Bioenergy Association of California.

22 I want to start by thanking the Air Board staff,
23 which really did something quite exceptional this week.
24 We submitted comments on a number of issues just before
25 5 p.m. on Monday, and by Wednesday afternoon staff

1 responded on a very important technical mistake in the
2 definition of biomethane. And I really want to thank Sam
3 Wade and Jim Duffy. That was just extraordinary. You
4 always wonder -- or I always wonder when I send comments
5 off into the ether if a human being at the other end is
6 actually reading them. Clearly, not only were thoughtful
7 human beings reading them, but they responded and
8 addressed this problem and committed to fix it. So thank
9 you to Sam and to Jim. That was really fantastic and very
10 reassuring.

11 Having said that, we do have a couple of concerns
12 that remain in the proposed changes as they relate to
13 biofuels. And I just want to remind the Air Board,
14 biofuels currently provide more than 90 percent of all of
15 the low-carbon fuels under this program. More than 90
16 percent. And even with the Governor's executive order on
17 zero-emission vehicles, which I think we all support, it
18 calls for 5 million ZEVs in 2030. That leaves 25 million
19 other vehicles on the road twelve years from now, and it
20 will be tens of millions for a long period after that.
21 Biofuels are what we can do now and in the next decade or
22 two to reduce air pollution and greenhouse gas emissions
23 from the five-sixths of the vehicles that will still be on
24 the road in 2030 and beyond.

25 Biomethane in particular is also critical to

1 reduce short-lived climate pollutants including those from
2 dairies and from diverted organic waste and agricultural
3 and forest waste that would otherwise be burned.

4 Biofuels are also the fifth largest component of
5 the 2030 scoping plan. They are a critical component of
6 the State's plan to achieve its 2030 climate goals.

7 So given all that, it is very important to remain
8 technology and fuel neutral in the Low Carbon Fuel
9 Standard; and there are a few problematic changes that
10 have been proposed.

11 First and foremost, we are very concerned about
12 the reduction from 10 percent carbon intensity to 7.5
13 percent in 2020. My members are already hearing
14 reluctance from buyers of LCFS credits. They're concerned
15 that the value of those credits will go down and that
16 there will not be a market for them in the near term.

17 The solid waste industry in particular, which has
18 a 2020 requirement under SB 1383 to divert 50 percent of
19 organic waste away from landfills by 2020, they need the
20 value of LCFS credits to remain high in the near term.
21 The fact that they're going to go back up after 2022 is
22 not enough.

23 So while some reduction in the 2020 target might
24 be warranted, we really urge the Air Board not to go all
25 the way down to 7.5 percent.

1 The other issue is we have serious concerns about
2 the temporary fuel pathways. They are extremely
3 conservative and will make it very hard to finance
4 projects for diverted organic waste and dairies.

5 We have other comments in our written comments.

6 And thank you again to the staff.

7 CHAIR NICHOLS: Thank you.

8 MR. PRICE: Good morning, Chair Nichols, members
9 of the Board. Brandon Price here representing Clean
10 Energy.

11 Clean Energy remains a main supporter of the LCFS
12 and we support the staff's proposed amendments that have
13 been put forth today.

14 What I want to raise the attention of the Board
15 of is the proposed verification program. We see the
16 verification program as a vital addition to the LCFS
17 program, not only to strengthen the integrity of the
18 program overall, but to provide additional liquidity into
19 the market.

20 However, we do have several concerns with respect
21 to the verification program; namely, the conflict of
22 interest provisions that have been layered into the
23 amendments, and also the pool-qualified verifiers that
24 will be available. Echoing some of the other concerns
25 that have been brought forward, we want producers to have

1 stability in LCFS, and that includes verification costs.

2 So we just want staff to take a long, hard look
3 at the proposed conflict of interest requirements that
4 have been put into the amendments. We have proposed in
5 our written comments to align the verification program
6 with the RFS QAP program, because we believe that there
7 will be considerable overlap between these two
8 verification programs.

9 Along the same lines I also want to touch on the
10 proposed buffer account, which is also a mechanism to
11 provide additional integrity to the LCFS program in the
12 instance of invalidating credits are not recoverable. One
13 of the proposed sources of credits to be deposited into
14 the buffer account are what's termed as stranded credits
15 from biofuel producers. These are essentially credits
16 that as proposed cannot be achieved or recognized by
17 biofuel producers if their operating carbon intensity
18 score is lower than the certified carbon intensity score.

19 So really we see this as additional value that
20 producers are bringing to the State of California for
21 reducing carbon intensity on transportation fuel space.
22 And we believe that that's value that should be achieved
23 and recognized by the producer and not deposited into the
24 buffer account.

25 So we urge staff to reconsider depositing that

1 additional value into the buffer account because it
2 becomes -- we want to incentivize producers to reduce the
3 carbon intensity of their operations. So if we can
4 revisit that issue, maybe come up with a true-up mechanism
5 for the actual carbon emissions that have been reduced,
6 that would be much appreciated.

7 And we have submitted detailed comments going
8 through other technical issues that we would love to have
9 staff's feedback on and work closely with staff on.

10 So thank you.

11 CHAIR NICHOLS: Thank you.

12 MR. NOYES: Good morning, Madam Chair, members of
13 the Board. Thank you for the opportunity to address the
14 Board and thanks for the coordination to give a very short
15 presentation here.

16 (Thereupon an overhead presentation was
17 Presented as follows.)

18 MR. NOYES: My name's Graham Noyes. I represent
19 the Alternative Jet Fuel Producers.

20 --o0o--

21 MR. NOYES: And the Alternative Jet Fuel Producer
22 group is a group of existing and future producers of
23 advanced biofuels for the aviation industry.

24 We want to start by thanking and commending staff
25 and management for the engagement over this two-year

1 process. We strongly support the transparency, the
2 engagement, the overall regulatory structure, and the
3 specific details of this rule. And to aviation fuels, it
4 represents a major breakthrough in terms of facilitating
5 commercialization out there.

6 --o0o--

7 MR. NOYES: There's always the "but" slide, and
8 the but is the one remaining issue that I want to speak to
9 today, not to take away anything in terms of our support
10 for the overall proposal, but we do have an issue on both
11 the technical and the policy side in terms of the carbon
12 intensity level that has been proposed as the benchmark
13 for aviation fuel. And that references specifically table
14 3 in the regulation. It is our perspective based on the
15 ISOR that this may have been driven out of excess of
16 concern to protect the on-road renewable diesel supply.
17 But it is our position that it was not the correct
18 technical determination nor the best policy outcome.

19 So we would urge the Board to direct staff to
20 reconsider this and move toward crediting parity.

21 Essentially we have about an 11 percent carbon
22 intensity delta between renewable diesel and conventional
23 jet fuel, and that results in an 11 percent less
24 opportunity out there for credit generation in the jet
25 space.

1 --o0o--

2 MR. NOYES: This is my one technical slide. I'm
3 not going to speak to this extensively other than to show
4 that relative to refinery efficiency, the assumptions that
5 were made on the jet-fuel side were negative from a carbon
6 intensity perspective.

7 --o0o--

8 MR. NOYES: From a policy option perspective,
9 there were a wide range of approaches that would have
10 drawn the curve much closer or made it identical to
11 renewable diesel fuel. These are detailed in our letter.
12 All of them would have moved us toward crediting parity
13 either immediately or over a 5- or 10-year period, and we
14 think these would have been a preferable policy outcome.

15 --o0o--

16 MR. NOYES: The policy problem is there's
17 essentially a tilted playing field right now. From a
18 policy standpoint, we have the two California programs
19 plus the federal program, not deliberately slanted against
20 jet fuel, but each one of those programs creates a policy
21 disparity. Together there's about 28 cents less incentive
22 to go into the jet fuel market. With this crediting
23 disparity, it would put it over 40 cents from a policy
24 standpoint.

25 And that's the key issue we wanted to raise with

1 the Board today, and continue the discussion with staff.

2 Thank you.

3 VICE CHAIR BERG: So, Mr. Noyes, even though your
4 time is up, I would like to ask a question so that I could
5 have you complete your last slide please.

6 MR. NOYES: Certainly.

7 VICE CHAIR BERG: So if you'd go ahead and give
8 us this data so that we can understand where the disparity
9 is.

10 MR. NOYES: Certainly. So the charts that are
11 here - and all of these charts are in the letter as well -
12 are essentially OPIS postings, the rack pricing that is
13 out there for the California market. These are from I
14 believe March 28 of this year. OPIS actually posts the
15 costs that are assigned to the Cap-at-the-Rack program.
16 So the costs essentially that conventional diesel fuel
17 needs to pay on an allowance basis per gallon. That's
18 that first chart that you see, with "CARB number 2"
19 highlighted, and the 30-day average of 15 cents. So
20 that's 15 cents that diesel fuel over the rack needs to
21 pay.

22 Conventional fuel is not burdened with that rack
23 price, so it doesn't have that 15 cent cost associated
24 with it. So I'd call that an inadvertent policy
25 discrepancy.

1 But if you're an alternative jet fuel producer,
2 if you look at your sales opportunity, on the on-road
3 market you've got another 15 cent worth of price
4 opportunity out there that you don't have if you go into
5 the alternative jet fuel market.

6 The parallel program -- or the parallel chart on
7 the Low Carbon Fuel Standard is the next one, where it's
8 highlighted "carbon cost per gallon diesel fuel, 6.84
9 cents." That's the LCFS cost that OPIS assigns on that --
10 on that particular day to cover the cost of allowances.

11 Again, because the diesel fuel is an obligated fuel,
12 they would need to pay that cost in the conventional
13 on-road market; whereas in the conventional jet fuel
14 market, they wouldn't be burdened with that cost.

15 So both of these are policy outcomes that
16 basically provide additional opportunity for revenue if
17 you sell into that on-road market that don't exist in the
18 jet fuel market.

19 The third policy disparity is in RIN generation,
20 the Federal Renewable Fuel Standard. And there, that has
21 caused -- the additional 6 cents is caused by a different
22 equivalence value of jet fuel as compared to diesel fuel.
23 You generate less RINs. So in today's market you get
24 about 6 cents less per gallon.

25 So those are -- all of these have -- I think the

1 way I would summarize it is, because all of these programs
2 have focused on the on-road market, and jet fuel has
3 traditionally been exempted, they end up creating
4 incentives to supply in the on-road market. And within
5 our producer group - and we'll have both Neste and AltAir
6 also giving comments today - they see -- when they are
7 making a market decision, they see additional revenue
8 opportunities for an on-road fuel that they don't get for
9 an aviation fuel.

10 We're not saying --

11 VICE CHAIR BERG: Okay. Thank you so much.

12 MR. NOYES: Thank you.

13 CHAIR NICHOLS: You got it? You got your
14 question answered?

15 VICE CHAIR BERG: I did.

16 CHAIR NICHOLS: All right. Thank you.

17 Okay.

18 MR. COLLINS: Good morning. I'm Al Collins. I'm
19 an employee of Occidental Petroleum Corporation. I'm here
20 to explain Occidental's support of inclusion of the carbon
21 capture and storage part of the Low Carbon Fuel Standard.

22 Many of the world's leading climate research
23 organizations have recognized that CCS is an important
24 tool for achieving CO2 emission reduction goals set by
25 California but also other organizations throughout the

1 world.

2 And Occidental is an industry leader injecting
3 CO2. We have extensive experience doing so successfully
4 and safely at commercial scales since 1983. We currently
5 have 34 floods and we inject 2.5 billion cubic feet a day
6 of CO2, which we purchase. And that ends up being about
7 50 million metric tons per year of CO2. And all of this
8 is -- virtually all of this is sequestered into the
9 reservoirs that we inject it.

10 In 2015, the U.S. EPA approved Occidental's first
11 of its kind monitor and reporting and verification plan,
12 MRV plan. And it's for quantifying the amount of CO2
13 that's actually sequestered during the RR operations. And
14 this was done under subpart RR of EPA's greenhouse gas
15 reporting rules.

16 As reported in EPA's electronic greenhouse gas
17 reporting tool in 2016 and 2017, over 2. -- I'm sorry --
18 over 8.5 million metric tons of CO2 was sequestered.

19 Also, you should know that 19,395 metric tons of
20 CO2 was released via leaks, fugitive emissions, and
21 operational upsets.

22 So therefore, only .02 percent of the CO2 that we
23 injected was actually not permanently sequestered.

24 Also in that plan is a pathway for ceasing
25 monitoring reporting, which I'd like to talk to you about

1 as maybe an alternative to include as part of your CCS
2 standard.

3 So the plan, which again EPA approved, uses a
4 sophisticated model that we developed for operation, and
5 it's truth tested by real monitoring data over a period of
6 years. And at EPA's discretion, they can determine when
7 reporting should cease. So this performance-based
8 approach we think might be a good additional option to
9 include in the CC -- in your CCS protocol.

10 Oil produced using CO2 presents an alternative to
11 greenfield exploration and production in newly discovered
12 fields and could displace --

13 CHAIR NICHOLS: Just finish your sentence, if you
14 would, please.

15 MR. COLLINS: Okay. Sure.

16 -- and could displace more energy intensive
17 operations.

18 CHAIR NICHOLS: Thank you very much.

19 MR. COLLINS: I didn't talk about the carbon
20 intensity of the oil.

21 But thank you for --

22 CHAIR NICHOLS: We do have written testimony also
23 from you. So thank you.

24 Okay.

25 MS. MEYERS: Good morning, Chair Nichols and the

1 members of the Air Resources Board. My name is Amanda
2 Meyers. I'm here on behalf of ChargePoint, the leading
3 electric vehicle charging network.

4 Starting off, thank you to Sam and the staff for
5 proposing enhancements to promote expansion of electric
6 vehicle infrastructure and other kind of proposals around
7 the electricity as a fuel.

8 In particular, we think it will help support the
9 Governor's Executive Order B-48-18, which has several
10 benchmarks, and we think this will help assist with that,
11 the proposals as well.

12 First, we'd like to support staff's proposal to
13 require a 20 percent carbon intensity reduction by 2030.

14 We'd also like to support inclusion of the book
15 and claim indirect accounting for renewable electricity.
16 We think this will make a very large difference in
17 reducing carbon intensity of fuel.

18 And lastly, we support broadening opportunities
19 within residential electric vehicle charging, but
20 recommend establishing a hierarchy for incremental
21 credits. And in particular, we recommend prioritizing
22 electric vehicle metered through the station versus
23 metered through the vehicle itself. We think that without
24 a hierarchy as such, it would disproportionately help
25 incentivize vehicles, not fueling infrastructure; and

1 given the executive order, which has the 2025 benchmark of
2 infrastructure, 250,000 chargers in the ground by 2025,
3 versus the 2030 farther-out goal of 5 million ZEVs on the
4 road, we just think that getting that infrastructure to
5 support the vehicles is critical.

6 We also think without the hierarchy there could
7 potentially be a reduction in reliability and accuracy due
8 to the difficulty to substantiate based on geofencing and
9 other described methods in the proposed language.

10 But thank you, and appreciate it.

11 CHAIR NICHOLS: Okay.

12 MS. DESLAURIERS: Good morning, Chair Nichols and
13 Board members. My name is Sarah Deslauriers and I
14 represent the Climate Change Program management of the
15 California Association of Sanitation Agencies, the members
16 of which represent over 90 percent of the sewerred
17 community across California and who represent the climate
18 change perspective with respect to wastewater.

19 First, I wanted to echo the Bioenergy Association
20 of California's comments by Julia Levin, and really
21 appreciate staff's work -- really quick work on changing
22 the definition of biomethane which allows the wastewater
23 community to continue to participate in this program.

24 In addition, we ask that the wastewater sector be
25 assigned to tier 1 pathway classification. We've been

1 working really closely with the Air Resources Board staff
2 on the development of a simplified calculator which was
3 supposed to be -- or will be introduced in the 15-day
4 comment period that was mentioned in the presentation.

5 However, the wastewater sector has now been
6 assigned to the tier 2 classification in the draft
7 changes, which would preclude the use of the calculator
8 that's already been developed. So we do ask that the
9 wastewater sector to be moved to tier 1.

10 We also strongly recommend that credit be given
11 for more than one use of the biogas or biomethane that's
12 produced, especially as wastewater treatment plants start
13 to accept diverted food waste for co-digestion with solids
14 and produce more biogas.

15 Right now we have existing useful life of assets
16 that, you know, produce energy on site, and we would like
17 the option to also produce low carbon fuel for nearby
18 fleets.

19 And it helps offset the cost of ratepayers if we
20 can look at different options for use of the biogas.

21 And that I just wanted to say we submitted the
22 comment letter as well for your consideration with other
23 comments in addition to what I've said today, and we'll be
24 continuing to work closely with Air Resources Board staff
25 as we have been doing.

1 So thank you very much.

2 CHAIR NICHOLS: Thank you.

3 MR. McDONALD: Good morning. I will be brief.
4 So I do know not to get in front of people's empty
5 stomachs.

6 Chairman Nichols, Board and CARB staff. My name
7 is Brian McDonald. I'm representing Andeavor.

8 Andeavor appreciates this opportunity to speak
9 before you regarding the proposed changes to the LCFS
10 regulation.

11 Andeavor is a refiner and marketer of
12 transportation fuels sold in the State of California;
13 therefore, a participant in the LCFS market.

14 We have submitted comments for your
15 consideration, but wanted to go on record to highlight a
16 few topics.

17 First, thank you for the work that Sam and his
18 staff have done to clarify large portions of this
19 regulation; specifically, enhancing the refinery
20 investment credit program language. Directionally, the
21 proposed changes will allow for Andeavor to better
22 evaluate and value process improvement projects aimed at
23 reducing the CI of the fuels we produce.

24 Additionally, we request that you consider the
25 comments submitted by WSPA on this subject, as we believe

1 they further enhance the provision.

2 Second, the buffer account proposal was an
3 encouraging step to provide obligated market participants
4 some form of insurance in the event an entity
5 inadvertently purchased invalid credits.

6 Lastly, we support modifying the 2019 and 2020 CI
7 targets; though even at these targets, the program is not
8 sustainable in the near term.

9 Considering these near-term challenges in
10 reviewing the proposed CI targets for 2019 through 2030,
11 we believe CARB should develop an improved
12 cost-containment mechanism for the program.

13 The cost-containment mechanism should provide
14 market participants a compliance pathway that is
15 predictable, cost effective, and non-punitive.

16 In the Andeavor comments, I've detailed some
17 specific concerns and recommendations. We believe the
18 recommendations will provide a framework to meet the
19 cost-containment challenge, with a goal of making the
20 program more sustainable in the long run.

21 Once again, thank you for your time. We are
22 encouraged by the progress in this rulemaking and look
23 forward to working with staff in the future.

24 Thank you.

25 MR. DELAHOSSAYE: Good morning. On behalf of

1 Neste, I would like to present a few highlights to some
2 comments that we've submitted verbally -- orally --
3 written. These are my oral comments. Pardon me this
4 morning.

5 (Laughter.)

6 MR. DELAHOUSSAYE: Getting ahead of myself.

7 First off, he think this is a very impressive
8 program and we're very supportive of this program. And we
9 think it's important as a market participant to come in
10 and express that appreciation for the staff, for the Board
11 for putting this program forward and continuing to move it
12 forward.

13 So we do support the post-2020 amendments that
14 exist; and these comments are speed bumps that we're
15 trying to fix to kind of make an even more efficient
16 program.

17 Specifically we want to look at the verification
18 program. Neste very much supports having a verification
19 program in place that'll come in and give more
20 reliability, more certainty, more transparency to that
21 sort of process.

22 We would caution that some of the things that had
23 been proposed seem to be a bit restrictive and a bit
24 specific to California. One of the things that's
25 important is, as California as a leader, looking to

1 hopefully export this program into other people as they
2 try to "me too" and follow on, trying to make that program
3 where it's more able to work for other jurisdictions that
4 don't have the kind of dedicated staff expertise and staff
5 efforts.

6 One of the ways that you can accomplish that, by
7 looking at existing verification schemes that are out
8 there, that are international, that can accomplish the
9 same and similar goals that this program is looking for,
10 that have been functioned in many of the other kind of
11 global programs that are like that, allowing those to come
12 in and take part in the system; instead of it just making
13 a California-specific sort of auditor, will both increase
14 efficiencies as well as transparencies among the auditors,
15 the obligated parties, so they've got systems in place
16 that are routine, they're predictable but they understand
17 that -- and then are not duplicative of each other.

18 I also want to echo some of Graham's comments
19 earlier. While we very much applaud and appreciate the
20 effort to put alternative jet fuel into the program as an
21 opt-in credit generator, Neste as a developer of that fuel
22 is looking forward to participate in this program.

23 The inherent deficit that already exists in terms
24 of costs is already built into it. When you couple that
25 with again inaccuracies in the benchmarking and having a

1 lower benchmark, and also then having a starting point for
2 an obligated fuel that already starts behind a curve and
3 has further reductions when you're dealing with a program
4 that's already on a declining basis, so coming into the
5 program already at, you know, 5-plus percent reductions;
6 all those deficiencies make it difficult for parity and
7 are unlikely to really provide the kind of incentive or
8 accuracy that you'd like to have an expanded low-carbon
9 fuel concept that also includes alternative jet fuels.

10 Otherwise we submit the rest of our written
11 comments for your consideration, and look forward to
12 working with you in the future.

13 Thank you.

14 CHAIR NICHOLS: Okay. Thank you very much.

15 It is now the noon hour. I want to be mindful.
16 I know that people all have schedules, and we had said we
17 would take a break right now. But if there's anybody
18 who's under extreme time pressure, maybe we can at least
19 call you at the beginning of the session when we return.
20 I think that's probably the best thing to do right now.

21 We do have a closed session at the lunch break
22 where we're going to be considering some pending
23 litigation.

24 So we'll take an hour, and we will be back at 1
25 o'clock.

1 Thank you.

2 (Off record: 12:02 p.m.)

3 (Thereupon a lunch break was taken.)

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

2 (On record: 1:09 p.m.)

3 CHAIR NICHOLS: We're ready to resume. We still
4 have our quorum here. Couple of Board members are just
5 finishing quickly their lunch. But everybody can hear in
6 the back room because we have the sound from this room
7 piped into the back.

8 So I'd like to continue with the witnesses, if I
9 can, where we left off before the break.

10 Thank you.

11 MR. RUSHING: Good afternoon. Rocky Rushing
12 with --

13 CHAIR NICHOLS: Back again.

14 MR. RUSHING: Back again. Rocky Rushing with
15 Coalition for Clean Air. Thanks for the opportunity to
16 comment on the proposed Low Carbon Fuel Standard
17 amendments.

18 The Coalition for Clean Air supports amending
19 LCFS to increase reduction targets by 2030 to ramp up
20 California's goal to reduce greenhouse gas emissions and
21 air quality improvement.

22 I don't have a "but" slide with me as an earlier
23 presenter did this morning. But if I did, it would say
24 CCA would like to see a 22 percent or greater reduction by
25 2030 of carbon intensity created by transportation fuels.

1 This is achievable through the continued growth of
2 alternatives to petroleum, such as electricity, hydrogen,
3 renewable diesel, and renewable methane.

4 More ambitious LCFS will not only help California
5 reach its clean air goals but reduce the localized air
6 pollution, largely from fossil fuels, that damages the
7 health of millions of Californians.

8 While efforts to reduce carbon fuel emissions
9 have focused on ground sources, it's time LCFS looks
10 skyward for greater reductions. CCA supports the
11 inclusion of alternative jet fuels in LCFS to assist the
12 aviation industry in shifting toward more sustainable
13 alternatives to petroleum.

14 Back on the ground, we believe that all of the
15 value of LCFS credits for residential electric vehicles
16 should be used to benefit EV drivers. One of the best
17 ways to put some of that credit value to work would be
18 through a statewide point of incentive for new EV buyers.
19 Such an incentive would support the governor's goal of
20 putting 1.5 million ZEVs on our roads by 2025 and 5
21 million by 2030.

22 Point-of-sale incentives are the most effective
23 way of putting a car buyer behind the wheel of a new ZEV.
24 Yet the current program does not take full advantage of
25 this powerful tool.

1 Under the current program consumers shopping for
2 a new car might not be aware of available incentives
3 offered by their local utility for the purchase of an EV,
4 and that certainly is a lost opportunity.

5 Or a rebate might be offered long after the
6 purchase, which would effectively obscure the buyer's
7 motivation for going electric.

8 With a point-of-sale incentive the buyer is
9 either made aware of the incentive at the dealership or
10 beforehand through marketing and advertising. Consumer
11 benefits and program improvements would include a
12 reduction in the point-of-sale purchase price of an EV.
13 Automakers would generate credits based on actual charging
14 data, an improvement over the current estimate
15 methodology.

16 Qualified buyers in low-income and disadvantaged
17 communities would more likely consider the purchase of an
18 EV with a point-of-sale incentive.

19 Thank you for your consideration.

20 MR. SCHUCHARD: Good afternoon, Chair Nichols,
21 members of the Board. Ryan Schuchard with CALSTART.

22 We support the proposal. We commend staff for
23 its great work and willingness to answer a lot of
24 questions and be very thoughtful and diligent about
25 incorporating feedback into the plan. So thanks, Floyd,

1 Sam, and Jim and team.

2 Just wanted to make two other reflections -- or
3 two specific reflections. We support the 20 percent
4 reduction target. We wouldn't of opposed if it were
5 higher. We realize that there's a number of subsectors
6 within the transportation system that could do a lot
7 better than what the estimates or assumptions expect.

8 Particularly me and the heavy duty have -- we've
9 taken off this last year. We now count 180 zero-emission
10 buses on the road in California, and could see thousands
11 by the end of year 2020; something that I think would have
12 surprised people even looking at this closely a year ago.
13 We also now have -- Kenworth has their low NOx 12-liter
14 engine for sale. There's an HVIP incentive, you can get
15 it today. And we see those trucks expanding as well,
16 predominantly filled with renewable fuel.

17 So I think there's a -- there's a huge growth in
18 that market that's going to increase the chances of being
19 able to achieve a higher CI target. But we do appreciate
20 staff being very adult about not wanting to get too far
21 ahead of ourselves, and we support the proposal as is.

22 Second thing is on the -- just the notion of a
23 point of sale and packaging the LCFS stream so you get
24 more of a benefit from the point of sale is the first
25 incentive. We support that very much in concept and look

1 forward to working with automakers and utilities in the
2 coming months and year to make that work and turn it into
3 something that optimizes further the LCFS credits.

4 But we just want to make sure it's clear that
5 that funding should not be considered as replacing the
6 CVRP or GGRF funding, that the program is underfunded and
7 we need additional support. So this is something that's
8 separate.

9 Thanks very much.

10 CHAIR NICHOLS: Thank you.

11 MR. MALAN: Madam Chair, Justin Malan for Ceres.

12 Ceres is a nonprofit organization of businesses
13 that really are promoting sustainable leadership. And
14 within Ceres we've got 46-member large U.S. companies that
15 represent over \$400 billion; and we're here today in
16 support of this proposal to not only extend the LCFS, but
17 to extend it more ambitiously to at least 20 percent -- 22
18 percent, I mean, carbon intensity. We'd like to see the
19 stronger number, 22 percent.

20 Many of our folks like Levi Strauss, Dignity
21 Health, Salesforce have large fleets in California. We
22 understand the ramifications. But we do believe this has
23 significant positive benefits in California, not only
24 emission reductions, public health, but it has since 2011
25 spurred a very strong industry in California. We

1 recognize, you know, \$2 billion has been invested in clean
2 fuels promotion in California. So given the recent
3 analyses, we believe that 22 percent is accomplishable and
4 we'd urge that the Board adopt the higher number when they
5 look for extending the program.

6 Thank you very much.

7 CHAIR NICHOLS: Thank you.

8 MR. BARRETT: Good afternoon again. Will Barrett
9 with the American Lung Association. I'm also speaking
10 today on behalf of 26 health organizations -- health and
11 medical organizations and dozens of public health
12 providers - medical providers, pediatricians, nurses, and
13 other health professionals in support of the extension of
14 the LCFS, as noted in our group letter submitted earlier
15 this week.

16 The health community has been a vocal and strong
17 supporter of the LCFS over its first decade, both in
18 California and as other states have looked to adopt the
19 program.

20 The LCFS contributes to cleaner air choices, less
21 pollution on transit corridors, and in freight-impacted
22 communities, and overall spurs a greater shift to a clean
23 air future.

24 Our organization supports the proposal going
25 beyond the 18 percent in the scoping plan, and think that,

1 as others have said, that recent research shows that we
2 can go beyond the 20 percent in the proposal to 22 percent
3 or higher.

4 We think that going beyond will just strengthen
5 the signal to continue moving towards a cleaner air future
6 and a stable climate.

7 Specifically the health community letter focused
8 on the role of the LCFS in spurring more zero-emission
9 vehicles and fuels necessary to meet our clean air and
10 climate goals. We supported the annual grid updates for
11 California electricity; increasing the energy efficiency
12 ratio for trucks and buses, to boost that signal, as ARB
13 considers many rulemakings going forward to expand those
14 markets for zero-emission trucks and buses.

15 We support the TRU provisions to send again a
16 clear and strong signal that the freight sector has to
17 clean up its emissions and move to electrification.

18 And also we'll echo the support for the Board
19 moving and looking for ways to move towards a point of
20 sale for our zero-emission vehicles, to help advance that
21 fleet, bring consumers closer to the point of incentive
22 funding when they're making their vehicle choices.

23 Outside of the letter that the health
24 organizations put in, the Lung Association just wanted to
25 say thank you to the staff for your continued work on the

1 biodiesel NOx issue. We know this is such an important
2 element of the program and we've been supportive of that
3 throughout, and continue to support your work on that.

4 We also support the alternative jet fuel option.

5 And in closing, just wanted to once again state
6 the strong support of the public health medical community
7 for the Low Carbon Fuel Standard as a key driver of
8 cleaning up our transportation fuel sector and moving us
9 to cleaner and healthier zero-emission options.

10 Thank you very much.

11 MR. HEDDERICH: Good, now I guess, afternoon,
12 Chair Nichols, ladies and gentlemen of the Air Resources
13 Board. My name is Scott Hedderich. I'm Executive
14 Director of Corporate Affairs within Renewable Energy
15 Group.

16 And I have to apologize. I lost my reading
17 glasses, and these are lovely finders from the hotel. So
18 if you see me squinting or struggling, it's -- it's part
19 of getting old.

20 But there's an awful lot to support here within
21 this proposal. And REG has submitted detailed written
22 comments. So I just want to take the opportunity to
23 highlight a few of those areas.

24 And before I start, REG, Renewable Energy Group,
25 is the largest biomass-based diesel producer in North

1 America. We manufacture both biodiesel and renewable
2 diesel.

3 And also, we're very excited about the
4 opportunity moving forward to get into both renewable
5 propane and the jet fuel market. So obviously you can
6 tell that we're supportive of the provisions on renewable
7 jet fuel.

8 And we'd be very remiss if we didn't thank the
9 staff for the hard work. The number of workshops that
10 have been held, the number of meetings. I think they've
11 really done a fantastic job and we're very appreciative of
12 that.

13 And I'll make another point, and I think it's
14 particularly salient right now. We very much appreciate
15 the stability that the LCFS program means to the
16 deployment of private capital. If a political body is
17 going to make a decision around either renewable fuels,
18 environmental improvement, whatever the policy option, and
19 then encourage private capital to deploy, those programs
20 have to be stable.

21 I wish we could say the same thing for the other
22 coast in terms of stability right now. We can't. So --
23 so thank you, California.

24 Real quick, three items that we wanted to -- or I
25 wanted to highlight.

1 The verification piece. REG is supportive of
2 verification. We're a little bit concerned with how the
3 proposal moves forward and that we were afraid we might
4 not get the pool of verifiers that we need. And that is a
5 critical item that needs to be addressed.

6 Very appreciative of the comments we heard today
7 around the ADF and the potential bifurcation between
8 on-road and off-road. I think that's very important. I
9 think there's definitely a path forward when we look at
10 how dyed diesel moves in the State. So we look forward to
11 working with staff on that.

12 And then lastly, with respect to the provisions
13 around buffer accounts, there's a lot of meat there, and
14 we continue to look forward to working with staff on
15 flushing that out so it's a workable, meaningful piece of
16 the LCFS going forward.

17 So thank you.

18 CHAIR NICHOLS: Thank you. Good luck with your
19 glasses. I sympathize.

20 MR. HEDDERICH: I'm definitely going to go to the
21 store.

22 CHAIR NICHOLS: Okay. We're on to page 2.

23 Does that one work?

24 Yes, it does.

25 MS. COOKE: Okay. First timer. Apologies.

1 Great. Good thing I wore my contacts today.

2 Thank you for the opportunity to speak on behalf
3 of the San Francisco International Airport and to also the
4 ARB staff for its exceptional stakeholder collaboration
5 through to this important day.

6 SFO supports the inclusion and applauds the
7 consideration of alternative jet fuel on an optimum basis
8 for the proposed amendments to the Low Carbon Fuel
9 Standard. We are actively exploring the pathways for
10 future delivery of AJF to meet the demand of our airline
11 partners and achieve our five-year strategic plan goal of
12 carbon neutrality by 2021.

13 Just this month we commissioned a study of
14 alternative jet fuel supply and infrastructure needs for
15 our airport, and we also regularly convene a working group
16 of nearly 60 stakeholders - that includes our airline
17 partners and fuel producers - to drive SFO's progress
18 towards SFO -- or sorry -- towards alternative jet fuel
19 adoption.

20 The current global market for AJF is only around
21 20 million gallons annually and needs significantly to
22 be -- needs significant and well-designed policy stimulus
23 and incentive to scale up these important low-carbon
24 fuels.

25 For perspective, just 1 percent of AJF blend at

1 SFO would require about 10 million gallons of fuel
2 annually.

3 For this reason SFO encourages the Board to
4 direct ARB staff to examine the submissions of the
5 airlines and AJF producers in this rulemaking when
6 finalizing the carbon intensity benchmark for conventional
7 jet fuel that will result in a meaningful AJF credit to --
8 excuse me -- credit value to accelerate California's
9 leadership in this anticipatedly increasing competitive
10 global market for AJF.

11 Further, airports will continue to face
12 infrastructure critical for AJF development and funding
13 needs. And even with the support of the LCFS credit,
14 those credits are not applicable to the infrastructure
15 development needs at the airport, and other stakeholders
16 will need to in order to fund and accommodate AJF at our
17 airports. So we hope that some day funds will be
18 available to help airports close this gap.

19 Finally, AJF will help California airports and
20 the State progress towards mutual and ambitious carbon
21 reduction and public health goals. We're eager to support
22 our airlines and ARB in pushing gains we have made with
23 renewable fuels in ground-based transportation into our
24 skies. We've pushed for these alternative fuels because
25 we care about the health of our workers and the air

1 quality of our regions.

2 And we are eager to continue to partner with ARB
3 staff to track our AJF success and to share that on the
4 global stage at our upcoming global climate action summit
5 and beyond.

6 So thank you again to ARB staff and to this Board
7 for its international leadership.

8 All of these comments that I've made today are
9 included in part in SFO's comment letter that we also
10 submitted today.

11 Thank you.

12 CHAIR NICHOLS: Thank you.

13 I think -- is it Simon Mui next or --

14 MR. RUBENSTEIN: I asked him if we could just
15 trade. I'm Dave Rubenstein, number 23, and I'm catching a
16 2:30 flight. So --

17 CHAIR NICHOLS: Very good. No problem.

18 MR. RUBENSTEIN: Thank you, Simon.

19 Dave Rubenstein with California Ethanol & Power.
20 We're building a sugarcane to ethanol facility in Brawley,
21 California. We're hoping to have it financed by the end
22 of the year. It'll be a significant project in terms of
23 68 million gallons of low-carbon ethanol, certified at 22.
24 There will be about 68 megawatts of electricity -- green
25 electricity coming out 45 or so to the grid, and close to

1 a billion cubic feet of high-point quality biogas and
2 working with SoCalGas on getting into the pipeline.

3 All I can say is thank you very much to the Board
4 and to the staff, because the LCFS, if that was not in
5 place, there's no way this project that's going to cost
6 \$900 million to build would get financed. And it's
7 critical that with long-term financing like that, the
8 extension in the strengthening of the LCFS is absolutely
9 critical, and the work you're doing is terrific. And I
10 just want to thank you.

11 Thanks.

12 CHAIR NICHOLS: Thank you.

13 MR. MUI: Good afternoon, Chairwoman Nichols and
14 members of the Board. Thank you. I'm Simon Mui with the
15 Natural Resources Defense Council and direct our vehicles
16 and fuels work here on the West Coast.

17 First, thank you to ARB staff. I think we heard
18 a lot about the hard work and the ability to listen to a
19 lot of the stakeholders in terms of comments and just in
20 terms of really working deeply with the stakeholder
21 community.

22 The LCFS is by far one of the most important
23 measures to help us meet SB 32 as well as the current AB
24 32. And we know that it's pulling more weight than ever
25 before, and we need the program. Today the program has

1 helped the State avoid over 33 million metric tons of
2 carbon pollution, which is equivalent to about 7 million
3 cars off the road for a year.

4 It's helped bring in additional alternative
5 low-carbon fuel use. Since the program left the station
6 in 2011, alternative fuel use has increased by 64 percent
7 in the State.

8 We heard from a number of stakeholders in the
9 types of projects. I'll just -- that have been enabled by
10 the Low Carbon Fuel Standard. I'll cite the ability for
11 now transit agencies to move towards cleaner buses,
12 including transit agencies like Foothill Transit and
13 Antelope Valley Transit recently purchasing electric
14 buses. Even the petroleum industry is moving to cut their
15 carbon pollution under this program.

16 The world -- North America's largest renewable
17 project was announced to be built in Kern County last
18 year, an 850 megawatt solar ray that will displace the
19 combustion of natural gas in Kern County, helping reduce
20 criteria pollutants and GHGs.

21 All told, the investments are amounting to an
22 increase of about \$2 billion in California, and that will
23 grow, together with public health benefits that we're
24 seeing from the program. But we know the LCFS train can
25 go even further, and we encourage the Board to support the

1 20 percent carbon intensity target that staff has
2 proposed. And we believe ARB could even go further than
3 that. We believe that the data shows that even a higher
4 target is possible. And as ARB looks to future
5 adjustments to the program, looking at the rapid progress
6 and the credit data will be very important to looking at
7 those higher targets.

8 We also see the other trains that are following
9 California, including in Canada; and we encourage ARB to
10 partner with those jurisdictions to take the next step.

11 And finally, I'd like to turn -- so I'd like to
12 just have -- say thank you to the Board and encourage you
13 to allow the train to continue moving to its next stop in
14 2030.

15 And I'll move to our expert rock star, Briana
16 Mordick, who's actually a petroleum geologist, to talk
17 about carbon capture and storage.

18 CHAIR NICHOLS: Thank you.

19 MS. MORDICK: Chairwoman Nichols and members of
20 the Board. I thank you for the opportunity to testify
21 today. My name is Briana Mordick and I'm a senior
22 scientist with the Natural Resources Defense Council.

23 Prior to joining NRDC, as my colleague Simon
24 mentioned, I worked for oil and gas industry as a
25 petroleum geologist on various projects, including the

1 Salt Creek CO2 injection project in Wyoming.

2 Carbon capture and storage could play an
3 important role in our climate mitigation efforts. CARB's
4 proposed accounting and permanent standards would protect
5 public health and the environment while giving the
6 technology and opportunity to reduce emissions and the
7 carbon intensity of transportation fuels and reduce
8 emissions from large sources.

9 In many cases this technology could also lead to
10 local air quality improvements.

11 Now, as someone with firsthand experience
12 operating a CO2 injection project, I can attest to two
13 things:

14 First, existing practices and regulations alone
15 cannot be relied upon to ensure permanent CO2 storage. As
16 such, ARB's multi-year effort that has culminated in this
17 protocol meets a critical need.

18 Second, the protocol goes to great lengths to
19 ensure that projects are sited, operated, and
20 decommissioned soundly with permanence always in mind. In
21 fact, this is the most comprehensive and protective piece
22 of CCS regulation ever compiled by any jurisdiction.

23 I believe that projects that qualify under was
24 built -- be both safe and effective.

25 NRDC's detailed joint comments on the CCS

1 protocol include suggested tweaks led by our main
2 recommendation for strengthening the protocol even
3 further.

4 The proposal, the CCS protocol locks in
5 monitoring using today's technologies for a hundred years
6 after injection stops. Now, we're confident that any
7 project that complies with the comprehensive requirements
8 of this carefully considered protocol will permanently
9 trap CO2 for centuries or even more.

10 However, by the time these projects stop
11 injecting, it is certain that technology and best
12 practices will have yet evolved beyond what we can imagine
13 today.

14 For example, a hundred years ago the first
15 commercial airlines were established using wood and fabric
16 airplanes. Just 50 years later we landed a man on the
17 moon. We need a similar -- we need to retain a similar
18 vision here.

19 We should build in flexibility on the
20 technologies to be used and the necessary period of
21 monitoring post injection. That would improve
22 environmental performance in the future and make it more
23 likely that operators will deploy carbon capture and
24 storage projects that are much needed to reduce carbon
25 footprint today.

1 We thank CARB staff for its focused hard work,
2 and the Board for its vision and leadership in this area.
3 We urge you to adopt this critical protocol with the
4 important changes we've suggested.

5 Thank you.

6 CHAIR NICHOLS: Thank you.

7 MR. MAGGAY: Good afternoon, Chair Nichols, Board
8 members. My name is Kevin Maggay. I'm with SoCalGas.

9 We are very supportive of the LCFS program. We
10 think it's been very important in reducing carbon
11 emissions and been -- and encouraging the use of
12 low-carbon alternative fuels.

13 And generally we're a supporter of the
14 amendments, but I did want to bring up one concern that
15 we've had. We've actually discussed this with staff
16 already, and I wanted to bring that to your attention
17 today.

18 Fossil CNG is expected to be a credit generating
19 fuel till 2025. However, the amendments require that all
20 CNG users are going to have to report their use in 2019,
21 which is a full six years before it becomes a deficit
22 generating fuel. That's a long period of time to report
23 before it crosses over.

24 Which in a sense isn't really a big problem
25 because most of the large users have already opted into

1 the program, and that accounts for the majority of the
2 total volume of fuel.

3 Our concern is with the smaller users and the
4 smaller station operators. These are small businesses,
5 mom and pop shops, very small municipalities. Our concern
6 is that they won't have the wherewithal, the resources, or
7 even the motivation to take on the administrative burden
8 of the program. They'll end up doing what might be the
9 easiest thing for them and, that is, switching back to
10 petroleum fuels; which, as Richard Corey mentioned in his
11 opening remarks, the use of alternative fuels has exceeded
12 all expectations, and it would be a shame for users to go
13 backwards at this point.

14 We've proposed to staff an exemption for small
15 users through 2025 while fossil CNG is still a credit
16 generating fuel. We think that the exemption period would
17 provide the natural gas industry and ARB to work together
18 to consolidate and streamline the reporting; but more
19 importantly, to develop products and services that would
20 take these CNG users and move them from fossil CNG to
21 renewable natural gas which achieves the highest -- or
22 actually the lowest carbon intensities of any fuels of any
23 of the different pathways.

24 So we look forward to working -- continue working
25 with staff over the next couple weeks to help find a

1 solution to this.

2 And I should add that, to this point working with
3 the staff, they've understood our issue, they've been open
4 to solutions, and they've been very responsive, which we
5 appreciate greatly.

6 Thank you.

7 CHAIR NICHOLS: Thank you.

8 MS. JOHNSON: Good afternoon. My name is Sarah
9 Johnson speaking on behalf of the California Airports
10 Council, an association of the 31 commercial service
11 airports in the State. I'll keep my comments relatively
12 brief today, as we largely align with San Francisco
13 International Airports.

14 We come here to support the inclusion of an
15 alternative jet fuel in the Low Carbon Fuel Standard
16 program as it aligns with goals of airports for reducing
17 greenhouse gas emissions and creating a healthier
18 environment around local communities.

19 As mentioned earlier, alternative jet fuel
20 production is limited in supply currently, with only five
21 producers in the market. Also, globally, there's less
22 than 20 million gallons of alternative jet fuel being
23 produced.

24 Biofuel production is expensive, so producers are
25 going into areas of the world where this can help reduce

1 the burden. So with the ARB's inclusion of alternative
2 jet fuel in the LCFS credit production, we'll ultimately
3 be increasing supply and reducing cost, and this will be
4 incredibly beneficial to California's environment.

5 So we thank you again for your consideration of
6 this measure, and we look forward to working with you in
7 the future.

8 Thank you.

9 CHAIR NICHOLS: Thank you.

10 MR. HANSON: Good afternoon. My name is Dwight
11 Hanson and I'm with Green Lane Biogas. And my comments
12 are in support of the comments -- or the written comments
13 from the Bioenergy Association of California.

14 I represent Green Lane Biogas, and we have over
15 25 years of experience in upgrading. And we have over 100
16 systems in 18 countries; 11 of those countries we were the
17 first biogas system in there. And currently we have one
18 of the largest facilities in the world, producing 10,000
19 CFM a day up in Canada.

20 And I've personally been involved in the
21 transportation industry for the last 25 years after I left
22 the Marine Corps. I've been a driver, a dock worker. I
23 worked for Cummins selling engines. I worked for Rush
24 Peterbilt. I worked petroleum selling fuel. I worked for
25 Xperion doing cylinders. So I've pretty much seen all

1 aspects. I still have my CDL.

2 But I wanted to come to you today with a
3 different approach. So I wanted to come and have a
4 backyard barbecue conversation with you. And what that is
5 is I literally have this with my friends in the backyard.
6 It's after I spent all day mowing the lawn and getting
7 grass clippings and sweeping the patio off. And then
8 we're eating barbecue, and they ask me about my job, and I
9 said, "Well, wouldn't it be cool if like the grass
10 clippings that I picked up and the food waste -- the food
11 that we don't eat we can put it at the curb. It can go
12 away and 30 days later it comes back fueling the truck
13 that picked up the trash 30 days before."

14 And they go, "You mean like Back to the Future"?
15 And I go, "Yeah. No, exactly, like Back to the Future."

16 And what's really encouraging is that we can do
17 this. And I encourage you to continue to take the
18 necessary actions to ensure that biomethane continues to
19 be a source that California can use as a benefit for our
20 residents today and future generations.

21 As Julia said, and implement the suggestions that
22 she submitted.

23 We'll continue to produce this waste. And we
24 have it in our power to go ahead and move forward.

25 I would ask you to view biomethane for what it

1 is. It's our ability to not only drive the economy, but
2 clean our air. And I believe it's one of the best ways of
3 any source to do so.

4 So if -- as Julia said, if we could -- if you
5 could look at the other three suggestions. And we really
6 appreciate the staff looking at that and taking those
7 recommendations, the one that you already implemented.
8 But look at the other three. And if you could review
9 those, and as you have barbecues coming up this weekend
10 and over the summer, just ask your -- and tell your
11 friends how we all can contribute to making a difference.
12 And look at those other three suggestions and make this
13 documentation -- the standard even better.

14 Thank so much for your time today.

15 CHAIR NICHOLS: Thank you.

16 MR. BROWN: Madam Chair, member of the Board.
17 Louie Brown today here on behalf of the National Biodiesel
18 Board and the California Advanced Biofuels Alliance.

19 I first want to align my comments with those of
20 our member company, Renewable Energy Group. I thank the
21 staff for the time and the dedication they've put into
22 this and working with our associations and our member
23 companies that are looking to advance biodiesel and
24 renewable diesel with the Low Carbon Fuel Standard.

25 We've provided some extensive and comprehensive

1 written comments. So the only thing I'd add to that today
2 and ask that you consider is that we are supportive of the
3 comments made by staff to review in the 15-day comment
4 period the idea of bifurcation for the biodiesel industry,
5 and believe that that is a logical step forward, dealing
6 with the ADF issue and some of the concerns raised by the
7 POET litigation.

8 So we fully support the proposal of bifurcation
9 and look forward to working with you and the staff as you
10 move forward.

11 Thank you.

12 CHAIR NICHOLS: Thanks.

13 MR. COSTANTINO: Good afternoon. Jon Costantino
14 here on behalf of the Renewable Products Marketing Group,
15 one of the largest ethanol importers into the State of
16 California. And here to just say a few things about the
17 program.

18 One, we support the program, its extension; and
19 highlight some of the notes that have been already --
20 Julia Levin, Geoff Cooper, Simon Mui. They all talked
21 about the benefits of alternative fuel, the length at
22 which liquid and combustion gases will be used in
23 transportation over the next 10 or 15 or 20 or 30 years.
24 And so ethanol will play an important role. There's a lot
25 of benefits that can still be provided by biofuels. We

1 want to just highlight the support.

2 But also that there are costs associated with
3 monitoring and verification. There's costs associated
4 with the new CI requirements and rules. And that the
5 balance between innovation and costs needs to be kept.

6 There's a lot of small incremental benefits that
7 have been gained quarter over quarter, and the CIs have
8 gone down and down and down. Those fund the bigger jumps
9 in CI that you guys are really looking for. So I just
10 want to highlight that small incremental benefits
11 shouldn't be lost. They should be rewarded so that the
12 larger benefits can come later.

13 So with that, thank you for your time.

14 CHAIR NICHOLS: Okay.

15 MR. MURPHY: Good afternoon, Chair Nichols and
16 members of the board. My name is Colin Murphy. I'm the
17 transportation policy manager with NextGen California.
18 Thank you for the opportunity to comment.

19 We have been engaged in the LCFS policy and this
20 rulemaking process through the last year with the
21 pre-rulemaking workshops, and I really want to commend
22 staff for the extensive, comprehensive, and very
23 collaborative set of meetings that they've put forward to
24 help develop this policy.

25 For the most part, we agree with their

1 recommendations and the proposed amendments that they've
2 suggested, particularly things like the alternative jet
3 fuel provisions, renewable and smart charge, and carbon
4 capture and sequestration.

5 The area that I really want to spend most of my
6 time focusing on is on the subject of targets. And
7 NextGen believes that the 20 percent target is errors on
8 the side of being too conservative, and that a higher
9 target is in fact feasible under likely fuel supplies
10 under a wide variety of technological and economic
11 scenarios. And our opinion has been informed by research.
12 NextGen, Ceres, and Union of Concerned Scientists have
13 sponsored a research effort that resulted in a report
14 which we have submitted to the docket, including update to
15 reflect the March 9th changes. That research was
16 conducted by Dr. Chris Malins who was a part of LCFS
17 advisory panel originally and is an expert in the field.
18 And he has found that there is in fact sufficient fuel to
19 support targets significantly in excess of 20 percent.

20 We have suggested a 22 -- I'm sorry -- a 23 or 24
21 percent target depending upon a preference towards a
22 linear trajectory or towards following the actual
23 deployment of zero-emission vehicles. But one thing we
24 noticed on -- across all the scenarios we looked at was in
25 the later years of the program the deployment of

1 zero-emission vehicles meant you had quite a few
2 additional credits coming on to the market, and
3 potentially sending a signal to producers who'd like to
4 make major capital investments that the credit price might
5 not be high enough to support those investments later.

6 This is the one opportunity we have to go and
7 allow producers to make major investments that require a
8 decade-long payback.

9 I would also point out that a higher target takes
10 a lot of pressure off the cap-and-trade market and other
11 elements of California's broader climate policy. The more
12 missions that we can get out of the transportation sector
13 through a feasible and cost-effective measure like the
14 LCFS, we think that it goes and supports broader climate
15 policy in California and supports us attaining SB 32
16 targets using the kind of innovative technologies that
17 have already been proven to work through the Low Carbon
18 Fuel Standard.

19 So we think that -- again, what we're asking is
20 that you request that staff produce some proposals for
21 higher targets than the 20 percent that can be discussed
22 in depth over the summer. We think that the trend of the
23 research so far has been to sort of narrow the possible
24 range. We think the range shows now that 20 percent is
25 really the very sort of bottom end of reasonable ambition

1 that California should have with regards to this program.
2 And we would like to have a discussion about what the more
3 appropriate number would be, and we think that is
4 somewhere in the 22 to 24 percent range.

5 Thank you.

6 CHAIR NICHOLS: Thank you.

7 MR. MORGAN: Chair Nichols, Vice Chair Berg,
8 members of the Air Resources Boards. Thank you so much
9 for the opportunity to speak here today.

10 On behalf of Tesla, I just want to express our
11 support for staff's proposed 2030 target. We think the
12 State could go even further, and I think that's been
13 expressed by a lot of other folks in the room here today.

14 In addition to that, we support the proposal to
15 update the energy/economy ratio to basically better
16 reflect the efficiency of an electric powertrain versus a
17 combustion engine powertrain. So we think that change
18 should be made. And we also support the proposal to
19 basically encourage more renewable adoption in the State
20 by allowing solar and renewable energy to be matched with
21 EV charging under the low-carbon fuel program to generate
22 addition credit. So we support all of those proposals
23 from staff.

24 As it relates to the rebate program that's
25 currently available and administered through California

1 utilities, we believe that improvements should be made
2 urgently to the rebate program. Specifically, these
3 rebates should be available at the point of sale. We
4 think that the rebates should be available statewide
5 regardless of which utility territory you're in. And we
6 think it should be clear and simple enough that a consumer
7 and frankly a salesperson can easily explain it to a
8 customer and the customer can really appreciate and
9 understand the value as they're making that critical
10 decision to go electric.

11 This is not a situation where it's like the
12 automakers versus the utilities battle of the ages type of
13 thing. But we have submitted comments saying that we
14 think the automakers, given our natural touchpoint with
15 the consumers at the point of sale, could easily step in
16 and help CARB improve the effectiveness of this pathway by
17 administering that directly as an automaker. So that's
18 something we hope the Board would consider.

19 Lastly -- and just sort of finishing up on that
20 note, we would also bring to the table real data from
21 the car -- recorded from the cars that would help CARB
22 move away from a situation where you actually have to
23 estimate how much charging is happening when you generate
24 these credits. But we could actually use data from the
25 vehicles themselves and give you some real quality

1 backdrop to the credits that are being generated.

2 So that's some more value we think we can add as
3 an automaker.

4 The last thing I'll note, on the hydrogen
5 proposal -- and I have 10 seconds so I'm going to go
6 quick. We hope that if that proposal is advanced, that it
7 would be tech neutral and include EV charging. And we
8 would also hope that there is some sort of backstop to
9 ensure that any capacity credit that's given ultimately is
10 tied to an actual fuel -- renewable fuel distributed into
11 the system.

12 Thank you.

13 CHAIR NICHOLS: Thank you.

14 Is somebody missing here? Ben Gustafson?

15 Next would be Joy Alafia.

16 Hi.

17 MS. ALAFIA: Good afternoon, Madam Chairwoman,
18 members of the Board. My name is Joy Alafia and I'm here
19 on behalf of the Western Propane Gas Association. And I'd
20 like to share a little bit about our organization.

21 Over two and half years ago we set forth our
22 plan, which was in part to include an initiative for the
23 commercialization of renewable propane. And we quickly
24 recognized the role of the LCFS and the inclusion of
25 propane to help us achieve that goal.

1 We submitted our comments. And thank you to CARB
2 staff and those involved in helping us to present the role
3 propane plays and also educate CARB staff on the
4 opportunities for propane.

5 My comments, which have been outlined in our
6 letter we submitted, specifically focus on a couple of key
7 areas. The first is that of forklifts. Since we're new
8 to the program, I'm not sure initially when forklifts were
9 included in the program, if there was a primary look at
10 all propane -- all forklifts indoor and outdoor having
11 kind of the same fuel sources. But if you look at
12 forklifts today, indoor forklifts -- you'll be very hard
13 pressed to find any indoor forklifts that operate with
14 gasoline or diesel. So if the purpose of the LCFS is to
15 replace or displace gasoline and diesel, we recommend that
16 there's a bifurcation, if you will, between indoor and
17 outdoor forklifts used. Indoor forklifts again primarily
18 run on alternative fuels, not gasoline or diesel.

19 My second most important comment for us is
20 looking at the fuel specifications - and the spec for
21 propane was established around almost 20 years ago - and
22 specifically looking at the permissible butane content in
23 propane. When we are looking at the producers for
24 renewable propane, we find a slightly higher butane
25 content. And we look forward to working with CARB staff

1 to demonstrate the emissions profile even with that higher
2 butane content would have a negligible, if any, impact to
3 the emissions.

4 So having the acceptance of a higher butane
5 content will enable us to have renewable propane in the
6 program while we transition from fossil to renewable.

7 I also support the comments of Kevin Maggay for
8 small station reporting operators exemption. We also have
9 very small mom and pop stations. And so long as
10 conventional fossil propane is below the cap and -- blow
11 the threshold, we would also seek an exemption for those
12 smaller station owners.

13 Thank you.

14 CHAIR NICHOLS: Thank you.

15 MR. BIERING: Good afternoon, Chairman Nichols,
16 members of the Board. My name is Brian Biering. I'm here
17 today on behalf the snow Sonoma Clean Power Authority.

18 Sonoma Clean Power strongly supports the proposed
19 amendments to the Low Carbon Fuel Standard. In
20 particular, we're supportive of the provisions that would
21 allow for incremental credit generation, particularly for
22 community choice aggregators that can demonstrate that the
23 generation that they're providing to their EV customers
24 has a lower carbon intensity than what they might
25 otherwise get from the grid.

1 One of the things that I think that these
2 amendments will allow companies like CCA's to do is to
3 offer innovative programs. You've heard a lot today about
4 the need to move beyond after-the-fact rebates, which is
5 how residential customers currently benefit from the LCFS
6 program, and really move to more of a point-of-sale-based
7 rebate.

8 In Sonoma County, the Sonoma County Clean Power
9 Authority did just that. They without any LCFS credits
10 offer point-of-sale rebates. And we saw in the one year
11 that we did this -- the previous year, you know, there was
12 about a hundred sales of EVs. It went up to about 711 EVs
13 in the one year that that program was launched. They also
14 installed 1700 chargers, and they're actively working with
15 the transportation agency to electrify the transportation
16 that work in the county.

17 So opening up the LCFS credit market to these
18 kinds of innovative programs really will allow much
19 greater EV adoption, greater electrification of our
20 transportation networks. So we strongly support the
21 amendments for those reasons.

22 I did want to echo one point that ChargePoint
23 made earlier. And it's really the need to consider some
24 sort of hierarchy and how the Low Carbon Fuel Standard is
25 implemented for this -- you know, these incremental

1 credits. And because we don't know all of the different
2 kinds of companies that are going to be out there, what
3 kinds of technologies are going to be available, there
4 really is a need I think to have some sort of order in the
5 regulation for how the LCFS credits for the incremental
6 credits would be granted to customers. And we think that,
7 you know, basically doing that on a customer-choice-based
8 model makes the most sense.

9 So I really thank the staff for all of the hard
10 work they put into the rulemaking ahead of time, and look
11 forward to participating in this going forward.

12 Thank you.

13 MR. BOHLEN: Good afternoon, Chair Nichols and
14 Board members. My name is Steve Bohlen. I lead the
15 Energy and Homeland Security Program at the National --
16 Lawrence Livermore National Laboratory. And for two very
17 interesting years I was the state oil and gas supervisor
18 and reorganized the DOGGR and set it on a more progressive
19 regulatory path.

20 Laboratories of the DOE tend to look at these
21 issues very technically and scientifically. And
22 California's leadership in driving transportation sector
23 emissions through policies such as this are to be
24 commended. You're a world leader. And the modifications
25 to the LCFS help you maintain that position.

1 The LCFS modifications are valuable because they
2 continue to drive technology innovation that's going to be
3 required for even greater challenges to come. After all,
4 the 2030 goals are only a point on a curve where the State
5 has a goal to reduce its emissions by 75 percent at 2050.
6 And beyond 2050, it's looking pretty clear like we have to
7 be better than zero emissions. We're going to have to
8 start taking CO2 out of the atmosphere and have other
9 negative carbon approaches.

10 So achieving such ambitious goals, of which this
11 is one important step, requires that we have all of the
12 tools available to us on the table.

13 And one of the most important tools which has
14 been used around the world to some degree that these
15 changes encourage are carbon capture and sequestration --
16 geologic sequestration.

17 It's not widespread around the world but
18 certainly there are very substantial demonstration
19 projects that have allowed testing of technology, the
20 development of scientific techniques, including techniques
21 to monitor that allow one to assess the condition of the
22 reservoirs when things start to go badly.

23 For example, we managed to image using tools that
24 had their origins in the national security environment to
25 identify stresses to the cap rock before CO2 was released

1 and the sequestration project ruined.

2 Carbon capture in Norway has been going on for 20
3 years. The national laboratories of the DOE have been
4 involved in all of these projects and know that there are
5 tools to manage the risks. The risks are real - risks to
6 the groundwater, risks to leakage - but those can be
7 managed and the risks mitigated through careful
8 monitoring.

9 So we're in strong support of this as part of a
10 tool chest to reach goals which are going to get tougher
11 with time to meet.

12 Thank you.

13 MR. ARONIN: Chair Nichols, members of the Board.
14 This is Ruben Aronin representing Energy Independence Now.

15 Energy Independence Now is the only environmental
16 nonprofit solely dedicated to advancing the hydrogen
17 electric marketplace, and strongly supports the staff
18 recommendation to strengthen and extend the LCFS program;
19 thanks staff and Board for your exhaustive and extensive
20 stakeholder process on this rule; and wants to also
21 encourage your adoption of the hydrogen infrastructure
22 pathway that you'll hear more about shortly.

23 We'd also like to highlight an upcoming white
24 paper on renewable hydrogen that identifies the critical
25 role that the LCFS plays to advancing the scalable

1 cost-effective renewable hydrogen marketplace. That paper
2 will be released in the coming weeks in association with
3 the California Hydrogen Business Council and the Leonardo
4 DiCaprio Foundation.

5 A couple -- beyond extending the LCFS program, as
6 staff recommends, which is so critical to incentivizing,
7 production of a renewable hydrogen, while lowering prices
8 to consumers because LCFS credit values increase along
9 with the amount of renewable content in the fuel.

10 Aside from this rulemaking, we want to flag, and
11 our paper identifies, the value of considering
12 establishing a market floor. The LCFS credit market is
13 subject to a cap in credit values and eliminating the
14 maximum value of credits for fuel producers, but the
15 program doesn't have a floor to ensure minimum value for
16 credits. A minimum value for LCFS credits would provide
17 stability and confidence in the credit market, allowing
18 investors to more accurately project revenue and mitigate
19 the risks of financing new projects.

20 And lastly, we want to flag that while renewable
21 grid content contributes to LCFS credit values for plug-in
22 electric vehicles, renewable hydrogen producers don't
23 receive LCFS credits for the same electricity. This puts
24 hydrogen producers at a disadvantage by disregarding the
25 actual renewable content of the fuel, forcing them to look

1 elsewhere for renewable fuel stocks.

2 CARB should seek to create a fair market for LCFS
3 credits by holding fuel producers to the same standards
4 and should consider allowing renewable hydrogen project
5 developers to leverage existing landfill gas production in
6 California as an eligible feedstock to meet SB 1505
7 requirements and to qualify for LCFS credits at least in
8 the near term.

9 California's phasing organic waste out of
10 landfills and limiting new landfill gas projects, but
11 existing landfill gas projects have the potential to
12 really help bridge the gap in renewable hydrogen
13 production while new facilities emerge using different
14 feedstocks.

15 Thank you very much.

16 MR. KENNY: Hi. Good afternoon, Chair Nichols,
17 members of the Board. I'm Ryan Kenny with Clean Energy,
18 and we are proud to support the LCFS. We've been original
19 supporter since the beginning.

20 I would like to offer a couple concerns we have
21 with what's being proposed. And I'd like to start off
22 first with the CI for dairy digester pathways.

23 The temporary field pathway is listed at zero
24 grams per megajoule, which we do believe is too
25 conservative. Staff has already approved and certified a

1 dairy digester pathway with a CI score of negative 254.
2 And we do believe the delta between the temporary CI of
3 zero and a typical dairy CI of negative 254 represents a
4 significant loss of monetary value to a dairy producer
5 looking to cover exceedingly high up-front capital costs.

6 At the current market pricing, this would yield
7 millions of dollars in lost revenue and LCFS value to the
8 buffer account in just the first quarter of operation. So
9 we do ask that consideration be given to a temporary fuel
10 pathway for dairy digesters to be in a more appropriate
11 range of maybe 100 to -- negative 100 to negative 150 so
12 producers can recognize appropriate value while the true
13 CI application is under consideration.

14 I'd also like to echo a couple of previous
15 concerns, one with a buffer account. We do believe actual
16 verified greenhouse gas emission reductions achieved by
17 biofuel producers should not be deposited into the buffer
18 account.

19 And I'd also like to echo previous concerns with
20 the easing of the 10 percent of the CI by 2020, as it does
21 create uncertainty impacting existing and future
22 investments.

23 So we ask for those considerations.

24 Thank you.

25 MR. LAWSON: Good afternoon, Chair Nichols and

1 Board members. Thank you for this opportunity to address
2 you on this issue. My name is Thomas Lawson. I'm here
3 with the California Natural Gas Vehicle Coalition. We
4 represent 25 members that represent quite a few companies
5 and utilities that deal with natural gas vehicles, from
6 fueling stations all the way up to OEM truck
7 manufacturers.

8 We are also the only statewide trade association
9 specifically for natural gas vehicles.

10 We submitted a comment letter, and I'm going to
11 be brief. We've also had quite a few folks that have
12 commented that are in our kind of technology and fuel
13 space that made some great comments, and we would add our
14 agreement with what they have said.

15 Two points that I do want to briefly touch on:

16 One is the fuel neutrality of the program. We
17 think it's important. We think that it creates an
18 opportunity for a lot of different fuels to participate in
19 helping California meet its goals, and we should
20 definitely guard that as much as we possibly can.

21 I think the other issue that we'd like to discuss
22 is the targets. A lot of folks have talked about the
23 long-term targets. But the short-term targets are just as
24 important; because, as we know, with bills like SB 1383
25 and other policies that are coming out of the legislature

1 and that have already been signed into law, what we do now
2 for projects that are happening and trying to get financed
3 and funded to get underway, they're watching what
4 California does and these things are affecting the market.

5 I know some have said that, you know, when the
6 Low Carbon Fuel Standard proposed amendments were released
7 there was a -- you know, some fluctuation in the market.
8 We're not sure if that's an anomaly or not, but we also
9 don't believe it should be taken for granted.

10 So we think that there could be a compromise
11 between where we are, you know, originally from 10 percent
12 to 7.5 percent, somewhere in the middle, and happy to
13 continue to engage with staff.

14 And just to close, I want to, you know, thank Sam
15 Wade and his folks. We've spent quite a bit of time
16 having these discussions, some, you know, officially
17 meetings, and on the phone and also some hallways and
18 whatnot, and I think that they've done a great job of
19 working with us and trying to get an understanding of
20 where we're coming from, and we really appreciate that.

21 Thank you.

22 CHAIR NICHOLS: Thank you.

23 Before we switch on to the next page I'm going to
24 allow for one move up the ladder here. Had a special
25 request from Julia Bussey.

1 So, Julia, if you want to come down and just do
2 your bit.

3 MS. BUSSEY: Thank you.

4 Good afternoon, Madam Chair and honorable Board
5 members. My name is Julia Bussey. I represent Chevron.

6 I'm providing comments on the carbon capture and
7 storage quantification methodology, or the CCSQM.

8 We strongly support the development of a CCSQM to
9 provide a pathway for the LCFS. Given California's
10 pursuit of a 40 percent 2030 goal, all pathways and
11 efforts to reduce should be facilitated through
12 technically sound and risk-based criteria.

13 We thank the staff for their work to create this
14 CCSQM; and with a few notable exceptions, we agree with
15 it.

16 This is an opportunity to reduce GHGs. However,
17 it would be an opportunity lost without reconsideration of
18 four proposed regulatory requirements.

19 It is likely that getting a permit for CCS will
20 take many years due to overlapping State and federal
21 authorities and the complexity of projects.

22 And therefore, it is really important to complete
23 a CCSQM before, in the next few years.

24 We agree with the current QM's overall technical
25 premise that CCS projects must be evaluated based on

1 site-specific conditions, and that operations are
2 monitored using appropriate technologies.

3 But in that regard, mandating a one-size-fits-all
4 100-year post-injection site care requirement will more
5 than likely kill any opportunity for CCS projects to
6 contribute to the LCFS. Technology is advancing beyond
7 what can be anticipated today. And therefore prescriptive
8 requirements will become obsolete. The selection of this
9 100-year PISC period to ensure permanent storage --
10 so-called permanent storage has no basis in jurisdictional
11 precedence or currently understood science and
12 engineering.

13 A modern technical analysis approach, not a
14 strict 100-year mandate, is followed and allowed by the
15 U.S. EPA, by Alberta, and Australia. All locations were
16 all places with existing successful projects or projects
17 in construction.

18 We urge the Board to direct the staff to work
19 with experts to identify a workable scientific and
20 precedent-based solution to PISC.

21 Similar, one-size-fits-all requirements are -- on
22 leaving open observation wells and site requirements of
23 two-layer geology are also technically unsound and will
24 likely kill projects.

25 There's nothing -- thank you.

1 So, Mary, we have a real opportunity to get big
2 reductions here, and we just hope that we don't lose that
3 opportunity.

4 Thank you.

5 CHAIR NICHOLS: Thank you.

6 Okay. Thank you very much.

7 MR. STEENHARD: Not a problem.

8 Good afternoon, Madam Chair, members of the
9 Board. I thank you for the opportunity to speak with you
10 today. My name's Brian Steenhard. I'm the CFO of White
11 Energy. We are an ethanol producer and a large supplier
12 of low-carbon renewable fuel to the state of California.
13 We've been a partner with California since the early days
14 of the LCFS.

15 I'd be remiss if I didn't mention the assistance
16 and professionalism we've -- that's been demonstrated by
17 the CARB staff throughout the life of the program working
18 with Sam and Anil.

19 We fully support Low Carbon Fuel Standard and its
20 goals and in particular the CCS protocol. In battling
21 climate change we believe CARB needs to deploy all of the
22 available tools it has today to reduce greenhouse gas
23 emissions. CCS we believe is a proven technology with
24 proven GHG reduction capabilities.

25 We also believe ethanol companies are a perfect

1 partner for implementing CCS -- our CCS while continuing
2 to provide low-carbon fuel to the State of California.

3 There are, however, as others have mentioned
4 earlier -- you know, challenges exist for deploying a
5 project in the current rulemaking environment.

6 In order for a company like mine to access
7 capital to deploy a CCS project that, you know, to date
8 looks like it could potentially run into the hundreds of
9 millions of dollars, you know, we need some assurances and
10 further clarity from rulemaking.

11 The current protocol, as the previous speaker
12 just alluded to, requires a hundred years of
13 post-injection monitoring to ensure permanence. The
14 financial burden associated with that monitoring
15 maintaining the liability for a hundred years is a tall
16 order for renewable fuel producer like our company.

17 As we're having discussions with the opportunity
18 with financial institutions and investors, you know, we're
19 all struggling to get our heads wrapped around the length
20 of that obligation and the associated liabilities with it.

21 You know, we -- we know there are several
22 jurisdictions that have addressed permanence with shorter
23 time frames such as the 50-year protocol -- or, sorry --
24 the 50-year rule under -- in the EPA subpart RR. I
25 believe it was already previously mentioned others like

1 Alberta, Canada, have created entities that would assume
2 the permanence liability after the site closure.

3 And additionally, we've gotten feedback that any
4 kind of grandfathering or future assurances, you know,
5 would help secure new capital for potential investors.

6 So we're asking the Board to direct the staff to
7 examine -- keep continuing to examine those alternatives
8 to the hundred-year permanence requirement and engage
9 stakeholders in trying to find a more workable solution.

10 To close, you know, we fully support ARB's work
11 in reducing GHG emissions and applaud the inclusion of the
12 CCS in the newest protocol.

13 Thank you.

14 CHAIR NICHOLS: Thank you.

15 MS. BERNER: Good afternoon, Chair Nichols and
16 members of the Board. My name is Jane Berner with the
17 California Energy Commission.

18 The California Energy Commission is funding the
19 initial hydrogen refueling network for the State.
20 Currently California has 34 open retail stations and
21 another 30 in planning or under construction, for a total
22 of 64 funded stations.

23 We are always open to ideas about how best to
24 incentivize and accelerate hydrogen and would be
25 supportive if the Board directs the staff to look into

1 this.

2 We are confident the Energy Commission program
3 can get California to 200 stations if the Governor's
4 budget is approved as proposed, but definitely need
5 additional tools to help the hydrogen network achieve
6 commercial scale.

7 This could incentivize the companies involved to
8 use more renewable hydrogen than ever before, contributing
9 to the reduction of greenhouse gas, criteria air
10 pollutant, and toxic air contaminant emissions through the
11 increased use of renewable hydrogen.

12 Thank you.

13 MS. FRANKLIN: Good afternoon, Madam Chair and
14 members. My name is Melinda Yee Franklin. I'm testifying
15 on behalf of the United Airlines and Airlines 4 America,
16 the organization representing the major U.S. airlines.

17 We offer our strong support of ARB's proposal to
18 include alternative jet fuel, referred to as AJF, as an
19 eligible credit-generating fuel under the LCFS, though we
20 do request two technical changes to the proposal.

21 We take our role in controlling greenhouse gas
22 emissions very seriously. U.S. airlines have improved
23 their fuel efficiency by 120 percent since 1978, saving
24 over 4 billion metric tons of CO2 emissions.

25 Our global aviation coalition has adopted

1 aggressive greenhouse gas emission reduction goals for
2 which a key strategy is the use of AJF.

3 In 2016 United Airlines began using AJF at LAX
4 under an agreement with AltAir Fuels to purchase up to 15
5 million gallons of their fuel over three years. United
6 and other A4A members are pursuing additional AJF
7 deployment opportunities in California.

8 Unfortunately, the production of AJF is
9 disincentivized in significant part because it's been
10 ineligible for LCFS credits, making the production of
11 renewable diesel much more economical than AJF.

12 Alternative fuel facilities produce both
13 renewable diesel and AJF; and allowing LCFS credits for
14 AJF would significantly improve the economics of new and
15 existing facilities, allowing them to generate credits
16 from all alternative transportation fuels produced.

17 A National Renewable Energy Laboratory analysis
18 demonstrates that allowing AJF to be an eligible
19 credit-generating fuel would stimulate additional
20 production of other renewable transport fuels, including
21 renewable diesel. For these reasons, United and A4A
22 strongly support ARB's overall proposal for AJF. However,
23 we urge you to consider revisions that we and the AJF
24 producers proposed in our written comments regarding the
25 carbon intensity provisions that would apply to AJF.

1 First, the 2010 CI values for the conventional
2 jet fuel baseline should reflect refinery efficiency in
3 California.

4 The second is to either maintain a static carbon
5 intensity baseline for jet fuel or, at a minimum, adopt an
6 approach that would adjust the jet fuel carbon intensity
7 baseline downward only at the point at which the diesel
8 carbon intensity benchmarks reach the jet fuel carbon
9 intensity starting baseline.

10 Without these adjustments the carbon intensity
11 provisions currently proposed would again place AJF at --
12 place AJF at a disadvantage relative to other renewable
13 transportation fuels.

14 Under these adjustments we propose every gallon
15 of AJF would still bring significant emission benefits
16 compared to conventional jet fuel.

17 Thank you. And, again, we have more extensive
18 comments submitted today.

19 CHAIR NICHOLS: Yes.

20 MS. FRANKLIN: Thank you.

21 CHAIR NICHOLS: We have seen those.

22 Okay. Thank you.

23 Jeff Reed.

24 MR. REED: Good afternoon, Chair Nichols and
25 members of the Board. My name is Jeff Reed, and it's a

1 pleasure to be here today to appear before you.

2 I'd like to start by echoing the comments of many
3 other speakers of thanks to the staff for their hard work
4 on updating the LCFS.

5 I'm the chief scientist for renewable fuels and
6 energy storage in the Advanced Power and Energy program at
7 UC Irvine. I'm also currently serving as the chair of the
8 California Hydrogen Business Council, on whose behalf I'm
9 here today.

10 The business council has more than 100 members
11 spanning the hydrogen value chain, including car, truck,
12 and bus manufacturers; infrastructure providers; equipment
13 manufacturers; and hydrogen producers. The mission of our
14 organization is to ensure that hydrogen realizes its full
15 potential as a key element of the evolving ultra clean
16 merged energy and transportation sectors in the State and
17 beyond as well.

18 Emanuel Wagner, our deputy director, and I are
19 here today to voice our strong support from the business
20 council for the proposal on hydrogen infrastructure
21 capacity credits, which was put in the docket last
22 November. A small group of stakeholders from the industry
23 is here today to outline the proposal in a bit more
24 detail.

25 First Dave Edwards of Air Liquide will begin with

1 a summary explanation of the concept. Next, Mike Lord of
2 Toyota will explain the infrastructure need from the auto
3 OEM perspective.

4 Robert Bienenfeld of Honda will then explain why
5 hydrogen justifies a treatment under LCFS that differs
6 from other fuels.

7 Shane Stephens of First Element Fuels will
8 provide the hydrogen station developer perspective.

9 Elan Bond from NEL, a prominent hydrogen
10 equipment manufacturer, will then explain the important
11 role of renewable fuels in the proposal.

12 Joe Gagliano of United Hydrogen will provide the
13 perspective from the hydrogen production and distribution.

14 And finally, Wayne Leighty of Shell will recap
15 and conclude our discussion on the proposal.

16 And once again, the CHBC strongly supports the
17 proposed capacity credit program on behalf of our members.

18 Thank you.

19 CHAIR NICHOLS: Thanks.

20 Okay. You guys are all organized.

21 MR. EDWARDS: Thank you. My name is Dave
22 Edwards. I'm a director in Air Liquide's hydrogen energy
23 business.

24 Our proposal, as submitted in November of 2017,
25 urges the creation of a hydrogen infrastructure pathway to

1 generate LCFS credits based on the installed fuel
2 dispensing capacity of our hydrogen stations.

3 Before I start I'd like to express my sincere
4 thanks to the ARB Board and staff members who helped us
5 put together with feedback and inputs a proposal that
6 supports California's low-carbon, clean-air,
7 zero-emission-vehicle goals.

8 If adopted, this proposal would generate LCFS
9 credits along two routes. The first is, credits would be
10 generated directly through hydrogen sales as per current
11 policy.

12 And secondly, the remaining installed capacity --
13 unused capacity of the refueling stations would generate
14 credits.

15 In both cases, the credits generated would be
16 calculated based on the carbon intensity of the supplied
17 hydrogen.

18 Creating this pathway would meet the following
19 goals:

20 It would expand the availability of best-in-class
21 low-carbon hydrogen fuel;

22 It would accelerate zero-emission vehicle
23 adoption by expanding the infrastructure; and

24 It would decrease the carbon intensity of
25 hydrogen fuel by providing incentives to station operators

1 to select renewable source pathways.

2 Our proposal is constrained in a few ways:

3 In particular, it has a limited time of 10 years
4 to fixed sunset.

5 Secondly, we have a maximum capacity fraction
6 that would decrease from 100 percent to 40 percent over
7 the lifetime of the program to build in the incentive to
8 sell hydrogen and not rely exclusively upon these credits.

9 Thirdly, we would cap the program at 500
10 stations, and to stations that are 1200 kilograms per day
11 or smaller.

12 Fourthly, we would require a minimum of 40
13 percent renewable content in the fuel, which exceeds our
14 current requirements in the State.

15 And there are various other constraints to
16 designed to work together with the existing ARFVTP
17 programs.

18 As a representative of Air Liquide, a
19 producer-distributor of hydrogen, and also an owner and
20 operator of several hydrogen refueling stations in
21 California, from our perspective these credits would
22 encourage private investment in more renewable hydrogen
23 production. It would enable growth, and growth is what
24 sets us in a direction toward fuel-cost reductions.

25 In addition to the continued build-out of

1 stations in California, a successful hydrogen market will
2 require significant private investment in renewable
3 hydrogen production facilities and distribution
4 infrastructure. We estimate for every dollar that is
5 being invested in refueling stations, matching dollars,
6 one or more, will be required to expand hydrogen
7 production facilities, distribution centers, and
8 production in the State.

9 Such investments will include renewable hydrogen
10 production from electrolysis and biogas reforming, as well
11 as refrigeration, liquefaction, compression, and
12 dispensing with electricity from solar, wind, and other
13 renewable sources. Private investment of this magnitude
14 requires stable, predictable markets supported by policies
15 similar to this one, of which we're supportive.

16 Thank you.

17 CHAIR NICHOLS: Thanks.

18 MR. LORD: Good afternoon, Chair Nichols and
19 Board members. My name is Michael Lord representing
20 Toyota Motor North America. We have contributed to the
21 development of this proposal and are strongly supportive.

22 Toyota believes that no advanced environmental
23 technology can truly succeed unless it becomes a
24 mainstream mass-market technology.

25 To achieve this we are working on a broad

1 portfolio of advanced technology vehicles including fuel
2 cell, battery, plug-in hybrid, and hybrid electric
3 vehicles.

4 Toyota has learned from nearly 20 years of
5 marketing advanced technology vehicles that achieving
6 large-scale volumes requires a deliberate focus on growing
7 the market. This includes flexibility in the regulation,
8 continued vehicle incentives, and a process of continuous
9 improvement of infrastructure build-out policies.

10 Toyota believes that fuel cell vehicles have a
11 great potential for electrifying the full spectrum of
12 vehicles from passenger cars to Class 8 heavy-duty trucks.

13 In addition to the over 3,400 Toyota Mirai on
14 California's roads, fuel cells power our big rig Class 8
15 heavy-duty demonstration truck being tested in the ports
16 of Los Angeles and Long Beach.

17 Fuel cell vehicles like the Mirai are on the
18 road, but it's clear that the availability of hydrogen
19 fuel, both the number and capacity of the fueling
20 stations, is a limiting factor for customer adoption.

21 In fact, we're hearing this directly from our
22 current and potential customers. They love the Mirai.
23 It's smooth, quiet, comfortable, and zero emissions. But
24 the lack of station and station capacity is a real
25 concern.

1 To this end, we support -- strongly support
2 Governor Brown's 2.5 billion dollar ZEV incentive,
3 including the commitment to bring 200 stations to
4 California by 2025 proposed in Executive Order B-48-18.

5 We also agree with the recommendation in the executive
6 order that states that all State entities recommend ways
7 to expand zero-emission vehicle infrastructure through the
8 Low Carbon Fuel Standard.

9 The LCFS capacity credit proposal outlined today
10 is aligned with the intent of this recommendation and will
11 go a long way to get more infrastructure built. This
12 proposal will allow for cost reductions through economy of
13 scales, resulting in fuel prices reaching gasoline parity
14 or better.

15 The proposal will also incentivize lower carbon
16 hydrogen and will have minimal impact on the overall LCFS
17 policy.

18 Therefore, we kindly ask for support of the LCFS
19 capacity credit proposal so we can bring the right kind of
20 hydrogen stations to the drivers of California.

21 Thank you very much.

22 CHAIR NICHOLS: Okay.

23 MR. BIENENFELD: Good afternoon. I'm Robert
24 Bienenfeld, Assistant Vice President of Environment and
25 Energy Strategy for American Honda. And we were involved

1 in the development of the hydrogen path -- capacity
2 pathway credit proposal and we support it.

3 We believe hydrogen can play a valuable role in
4 achieving the State's 2030 and 2050 greenhouse gas and air
5 quality goals. Along with the plug-in hybrid and battery
6 electric vehicles, fuel cell vehicles have many important
7 unique attributes that will help us reach the broadest
8 number of potential customers in California.

9 Hydrogen is unique due primarily to the need for
10 an entirely new refueling infrastructure. And unlike the
11 electric infrastructure, which is supported by the PUC and
12 large electric utilities, hydrogen has no natural way of
13 rate-basing the growth of this essential energy carrier.

14 This proposal addresses the difference in an
15 appropriate way, providing a specific incentive based on
16 refueling capacity, for a defined period of time, limited
17 in scale, and helps us overcome the chicken-and-egg
18 problem that is associated with alternative fuels but
19 really is unique to hydrogen among the zero-emission
20 fuels.

21 As stated previously, increasing the supply of
22 hydrogen refueling stations is critical barrier to the
23 widespread adoption of fuel cell vehicles. Today we have
24 customers waiting in line for fuel, and we need to address
25 this. And robust policy support will help.

1 This proposal will help us provide more coverage,
2 that is, to say more areas of the State with hydrogen
3 availability, and more capacity, that is, say more pumps
4 and fueling positions for more customers and vehicles.

5 The proposal helps assure that infrastructure
6 providers can ramp up fuel sales in a reasonable way
7 without being severely constrained by operational costs.

8 Meeting 2030 and 2050 goals will require
9 widespread adoption of zero- and near-zero-emission
10 vehicles. Hydrogen fuel cell vehicles are needed for the
11 range, refueling time, vehicle size, and climate toughness
12 that no other zero-emission vehicle can provide.

13 On behalf of Honda, thank you for the opportunity
14 to present our perspective and support this proposal.

15 CHAIR NICHOLS: Thank you.

16 MS. STEPHENS: Well, good afternoon. My name is
17 Shane Stephens. I'm a founder and chief development
18 officer of First Element Fuel. We've contributed to this
19 proposal and we strongly support it.

20 First I want to thank the members of the Board
21 and CARB staff for pushing the world towards cleaner
22 vehicles. I can assure you that my company wouldn't exist
23 today if it weren't for you guys and it weren't for the
24 Energy Commission and all the great work you've done
25 together on ZEVs. So big thank you.

1 My company was founded here in California a
2 little over four years ago for the sole purpose of
3 retailing hydrogen to fuel cell vehicle customers. And we
4 have a strong focus on a positive customer experience
5 because we think that's critical to driving the adoption
6 of ZEVs.

7 With 19 hydrogen stations here in California, we
8 own and operate the majority of the 34 stations open in
9 California today. And from our on-the-ground experience,
10 I can tell that the big challenge we face from an economic
11 view is that, one, we need to open stations ahead of the
12 cars so that we're not seeing the lines that Robert's
13 talking about; and that, two, we need to put a full set of
14 resources on operating those stations to assure a positive
15 customer experience. That's especially important during
16 these early years, but it's also during these early years
17 that the stations are under-utilized.

18 Today, if that one customer shows up, whether it
19 be one out of ten customers that day or one out of a
20 thousand customers that day, it doesn't make a difference
21 to them. We need that one customer to have a positive
22 experience as part of their day-to-day ZEV driving, and we
23 put resources on our station to make sure that happens.

24 But that's a big cost to us in these early years
25 when the market is embryotic. So the revenue stream

1 provided by this program, if adopted, will be a huge
2 factor in helping station developers like First Element
3 manage these early stage economic challenges. Because in
4 the end what we're trying to do is transition our industry
5 from today's embryotic stage to early commercial scale so
6 that we can keep pace with and not stifle the rollout of
7 fuel cell vehicle deployments.

8 This proposal would work in conjunction with
9 other existing policies, like the Energy Commission's
10 Hydrogen Station Funding program, the CVRP program, and
11 the ZEV mandate, to achieve exactly that.

12 So, for the first block of stations that my
13 company built two years ago, the infrastructure investment
14 per vehicle was about five times the cost of that of the
15 infrastructure for a plug-in vehicle.

16 For the stations we're currently building we've
17 brought that cost down to just two times that of the cost
18 for a plug-in vehicle.

19 This proposal together with the CEC's funding
20 program will help us continue to drive the cost out of the
21 infrastructure as we increase in scale.

22 So in 10 years time, I can tell you that First
23 Element is very confident that there is an off ramp for
24 government support and that we'll be able to compete head
25 to head with gasoline on a cost-per-mile basis.

1 So this proposal, if adopted, will give us a
2 powerful tool to get over this early hump, achieve the
3 commercial -- achieve the early commercial scale, and get
4 to that stage.

5 So thank you for consideration of this proposal.

6 CHAIR NICHOLS: Thank you.

7 MS. BOND: Good afternoon, Chair Nichols and
8 Board. My name is Elan Bond with Nel Hydrogen. We are
9 the largest peer play hydrogen company in the world. We
10 also manufacture standardized hydrogen refueling equipment
11 and electrolyzer equipment for renewable hydrogen
12 production. And I am currently overseeing the
13 installation of our 17 stations across California,
14 including two Shell stations actually in Sacramento.

15 Something to look forward to.

16 We have also contributed to the development of
17 this proposal and are strongly supportive. I'd like to
18 echo the comments of my peers who have gone before me and
19 support those yet to come.

20 This proposal will allow hydrogen fuel to
21 transition to full commercialization. This would also
22 continue the leadership of California in advancing
23 hydrogen for transport and in acting as the global focal
24 point for investments and activities.

25 But more importantly, it will provide the basis

1 for private investments to scale up equipment
2 manufacturing volumes, unlocking substantial cost
3 reductions on equipment for companies such as my own.

4 And specifically for now the efforts already made
5 in California on hydrogen have motivated us to establish a
6 business presence and make investments in the State.

7 This LCFS proposal for hydrogen will greatly
8 expand opportunities to continue our own investments in
9 California.

10 Thank you.

11 CHAIR NICHOLS: Thank you.

12 MR. GAGLIANO: High. Good afternoon. My name is
13 Joe Gagliano. I'm with United Hydrogen. We are a
14 vertically integrated provider of retail hydrogen fuel.

15 There are a lot of station developers in the
16 State building out the network, as you've just heard. In
17 order to meet the Governor's executive order goals of 200
18 hydrogen stations by 2025, the State will definitely need
19 more players in the market.

20 The expansion of the LCFS program through this
21 hydrogen infrastructure pathway that my company was
22 involved in developing, along with the others, provides
23 the necessary incentive for companies like United Hydrogen
24 and others to enter the California market.

25 We believe this proposal will increase the -- and

1 diversify supply of hydrogen in the State, low carbon
2 intensity hydrogen fuel for California, while at the same
3 time lowering the cost of fuel for producers and
4 consumers. And with the implementation of this proposal
5 that we have before you today, it would increase the
6 adoption of fuel cell vehicles among the consumers in the
7 State as well as accelerating the State meeting their air
8 quality and greenhouse gas goals.

9 Thank you.

10 MR. LEIGHTY: Madam Chair, members of the Board.
11 My name is Wayne Leighty. I'm business development
12 manager for hydrogen with Shell. We were also involved in
13 developing this proposal and we're strongly supportive of
14 the hydrogen infrastructure pathway.

15 We believe this proposal will create an effective
16 and appropriate incentive supporting both the expansion of
17 the hydrogen fueling network and the reduction in the
18 carbon intensity of hydrogen fuel. This supports the
19 low-carbon, clean-air, and zero-emission vehicle goals of
20 the State.

21 From our analysis the proposal partially offsets
22 the unique low initial utilization of the hydrogen
23 infrastructure, thereby de-risking private investment.
24 And we think it accelerates existing incentives in the
25 LCFS program to develop low-carbon hydrogen production.

1 While we believe the proposal is effective in
2 de-risking and decarbonizing hydrogen, it is also
3 appropriately constrained by eligibility criteria to
4 prevent unintended actions, and by sunset provisions and
5 caps on the number and size of stations, such that the
6 overall impact to the LCFS credit program is unlikely to
7 exceed 1 to 2 percent of total credit generation.

8 The development of this proposal began with an
9 opportunity and broadly shared objective to increase the
10 scale and reduce the cost for hydrogen infrastructure, and
11 thereby enable adoption of zero-emission fuel cell
12 vehicles.

13 This scale will require major investment from the
14 private sector and make significant contribution to the
15 State's air quality and greenhouse gas reduction goals.
16 For example, we have completed and published work showing
17 the capital and operating cost of hydrogen refueling
18 stations can be reduced by more than 50 percent
19 immediately if there's a modest increase in hydrogen
20 scale, a scale that is aligned with the Governor's
21 executive order.

22 We support the hydrogen infrastructure pathway
23 proposal as an effective, appropriate, and constrained
24 approach to supporting expansion of the hydrogen fueling
25 network and reduction in hydrogen carbon intensity,

1 consistent with the LCFS policy and the Governor's
2 executive order.

3 We think the result will be improved availability
4 of best-in-class zero-emission vehicle fuel to support the
5 efficient decarbonization of fuels and the widespread
6 customer adoption of zero-emission vehicles, and enabling
7 a positive cycle of cost reduction for progress toward the
8 viable market conditions for hydrogen.

9 Thank you for your time and consideration today.

10 CHAIR NICHOLS: Thank you.

11 MR. UNNASCH: Good afternoon, Chair Nichols and
12 Board members. I'm Stefan Unnasch with Life Cycle
13 Associates. And as you know, I have been working on the
14 LCFS for over a decade. And the program requires an
15 accurate accounting of the carbon intensity of fuels in
16 order to maintain trust from stakeholders, the public, and
17 fuel providers.

18 So, accordingly, I've provided dozens and dozens
19 of comments over the years, with impacts ranging from
20 5,000 ton -- 5,000 credits to half a million credits per
21 year, just, you know, truing up the math, getting it
22 right. And I urge you to consider many of the comments
23 that I've considered, including, for example, re-examining
24 the distribution of emissions between corn ethanol and
25 corn oil. They both deserve a share of the ethanol plant

1 emissions as well as the indirect land use.

2 Also, perhaps expanding the role of renewable
3 power. Everyone recognizes the unique role of hydrogen
4 and electric vehicles. But there's an opportunity, for
5 example, with ethanol plants that produce animal feed, you
6 could bring the manure back to the ethanol plant and run
7 it in a digester, which would require millions of pounds
8 of manure, thousands of truck trips; or you could put it
9 into a digester -- put it into an engine. The electrons
10 weigh less than these glasses. Put it in the grid, and
11 it's still a closed loop, and that's an opportunity to get
12 methane reductions that, quite frankly, otherwise would
13 never occur without the value of the LCFS credit.

14 I've also examined the compliance curve in great
15 detail and looked at what causes it to move and whether
16 it's possible to comply, and it's very difficult. You
17 have a lot of new fuels that will help, and you need all
18 of them.

19 Some of those include new sources of renewable
20 hydrogen from all sorts of feedstocks, including
21 potentially manure by wire. Potentially low carbon
22 sources of corn ethanol from sugarcane in California or
23 from other feedstocks. And, you know, a wide variety of
24 other fuels.

25 Also, I encourage you to allow the fuel producers

1 to keep some or all of their buffer accounts because
2 it's -- in LCA speak, you're supporting continuous
3 improvement. And if they track their carbon intensity, as
4 we've been encouraging them to do, and they track it every
5 month, and they see it go down every year, they ought to
6 be able to keep a fraction of that, which provides them
7 further incentive to make very small changes in efficiency
8 and improvements that will help bring down carbon
9 intensity in the future.

10 Thank you.

11 MR. BRUNELLO: Hi. My name's Tony Brunello. I
12 actually thought I would be the last speaker, so I
13 apologize.

14 (Laughter.)

15 MR. BRUNELLO: I'm here today representing
16 Conestoga Energy. We've produced ethanol to this State
17 and have been there since the beginning.

18 I just wanted to say three brief things today:

19 First is we've watched the staff work very hard
20 on this standard for the last number of years. So, Sam
21 and Anil in particular have been exceptionally helpful.
22 And I know Elizabeth and Lex on the CCS protocol. So
23 again I can't thank them enough. They've worked hard to
24 get things to where they are today.

25 One thing I just wanted to address, we're very

1 supportive of the carbon capture and storage protocol. We
2 definitely need that in there and we hope that we'll
3 continue to have progress. That has been very difficult.
4 We've been working on that for a long time. For somebody
5 who is working on the forestry protocol about 10 years
6 ago, I know how difficult it is at putting these protocols
7 together.

8 And in particular, the hundred-year provision in
9 the protocol I know is something that has a history in
10 California and there's reasons for why we've done it. We
11 just wanted to try and promote some flexibility in how
12 that is addressed.

13 So again, support the CCS effort. But it would
14 help to have a little more flexibility on how we're
15 addressing the hundred-year issues in that protocol.

16 Second is how sorghum is dealt with. There are
17 so many details in this regulation. But sorghum is very
18 important for the industry across the United States. And
19 so we produce ethanol from sorghum and we've worked hard
20 with the staff to try and improve the numbers in the GREET
21 model in particular. So we've partnered with Argonne,
22 spent a lot of time.

23 And so we really appreciate again the work that
24 the staff has done. Our ask is just to try and maintain
25 the numbers that we see in the model right now.

1 So thank you again for letting us comment.

2 MR. SHERBACOW: Good afternoon, Chair Nichols and
3 Board. My name's Bryan Sherbacow. I am the chief
4 commercial officer of World Energy. And I'd like to make
5 just a couple comments today in particular with regard to
6 renewable aviation fuel and its inclusion within the
7 program and ability to generate credits.

8 We have a refinery, AltAir Paramount -- in
9 Paramount, California. That is the first refinery --
10 renewable refinery that was designed specifically for the
11 production of renewable aviation fuel. And since 2016,
12 we've been delivering renewable jet from that refinery to
13 LAX primarily for our primary customer, United Airlines,
14 but as well as others.

15 And just to make a couple quick comments late in
16 the afternoon here, that are included in the statement
17 that we submitted but I'd like to specifically highlight.

18 The first is to address the concerns that's been
19 expressed that enabling renewable jet to generate credits
20 will cause producers to reduce renewal diesel production
21 in favor of renewable jet. And I'd like to counter that,
22 because empirically we don't believe that that's going to
23 happen. Even if the renewable jet credit generation were
24 to equal the renewable diesel generation, the margin for
25 renewable diesel still exceeds renewable jet from a

1 commercial perspective. We're not incentivized to
2 cannibalize the renewable diesel with renewable jet.

3 And that's primarily driven by two aspects: One,
4 the cost of production of renewable jet still remains
5 higher; there's more processing required. And then,
6 secondly, the monetary value of both the physical product
7 as well as the credits associated with renewable diesel
8 exceed the -- those available for renewable diesel.

9 However, it's important to point out that
10 supporting renewable jet in fact supports renewable
11 diesel. So if you think about, you know, just like
12 petroleum crude, a renewable crude oil contains a mixture
13 of different molecules of various sizes. But the majority
14 of those in the feedstocks that we primarily used for our
15 production are a diesel-range molecule with the minority
16 being jet. So our production on a yield basis is going to
17 produce significantly more road diesel. And what that
18 means is incremental addition of capacity -- or new
19 capacity for renewable jet actually means incrementally
20 more renewable diesel. So differently, one unit of jet
21 can equal approximately or up to eight new units of road
22 diesel. So again, supporting the jet actually supports
23 substantially more production of renewable diesel.

24 The second point that I'd like to highlight in
25 the realm of environmental justice has to do with improved

1 emissions that happened as a result of the use of
2 renewable aviation fuel. As pointed out in the staff
3 report, there's a significant reduction of criteria
4 pollutants with the use of renewable jet versus petroleum
5 jet. In numbers, we have reductions of approximately 45
6 percent particulate matter, 40 percent SOx, and up to 12
7 percent NOx as a result of using these fuels. And very
8 importantly, a majority of these emissions actually occur
9 upon takeoff and landing of aircraft. And what that means
10 is you actually will be able --

11 VICE CHAIR BERG: Thank you so much. If you can
12 give us a concluding sentence. Thank you.

13 MS. SHERBACOW: The last point there is that the
14 substantial reductions actually happened near the airport,
15 which often happen to be in the locations of disadvantaged
16 communities.

17 Thank you very much.

18 CHAIR NICHOLS: Thank you.

19 MS. NAGABHUSHAN: Good afternoon, Madam Chair and
20 members of the Board. My name is Deepika Nagabhushan.
21 I'm an energy policy associate at the Clean Air Task Force
22 and I represent our team of technology, policy, and
23 geology experts. We're an independent nonprofit, and for
24 more than two decades now we worked on developing and
25 advocating for market-based policy solutions for the

1 climate challenge.

2 Most recently we succeeded in a joint
3 multi-stakeholder effort to extend and expand the 45Q
4 federal tax incentives for CCS.

5 CATF fully supports and appreciates CARB's
6 efforts to admit CCS into LCFS. And as we've heard
7 before, IPCC modeling suggests that meeting the 2 degree
8 climate goal will be extremely costly and difficult
9 without the extensive use of CCS.

10 So kudos to the team at CARB for taking a
11 leadership role in creating a pathway for CCS to play its
12 role in climate change mitigation starting with the
13 transportation sector.

14 We believe that LCFS credit market will provide
15 an added economic incentive for more CCS projects to be
16 developed, which will help meet California's climate
17 goals, near-term and mid-century climate goals. But not
18 just that. We believe that the LCFS credit market will
19 catalyze a CO2 reduction industry even out side of
20 California, laying the foundation for deep decarbonization
21 across the U.S.

22 A CO2 reduction industry is -- could emerge in
23 the form of a network of capture, transport, and storage
24 infrastructure that could eventually deliver several
25 millions of tons of emissions reductions on an annual

1 basis.

2 On the protocol, however, CATF has engaged the
3 CARB staff present here in hours of discussions over
4 multiple meetings on our technical recommendation. So
5 briefly I'll summarize.

6 Our recommendation is mainly that CARB adopt a
7 performance-based approach, which will add more certainty
8 and security to the storage of CO2. In a
9 performance-based approach, monitoring and verification
10 requirements are tailored to the local geology and local
11 conditions; and verification plans are made fit for
12 purpose rather than being rigid.

13 We appreciate some of the measures that CARB has
14 already taken in the early rounds of drafts to make this
15 protocol more performance based. This will ensure that
16 the most secure and the best projects are implemented.

17 Our other technical recommendations will help the
18 protocol become broader and provide more certainty for
19 storage in depleted oil fields, making storage more
20 secure.

21 In conclusion, I would emphasis that CATF really
22 supports CCS and its inclusion in the LCFS rule. We just
23 make -- we just recommend that CARB make more parts
24 performance based and structured in such a way that it can
25 leverage technological and scientific advances as well as

1 project experience.

2 Thanks.

3 VICE CHAIR BERG: Thank you.

4 MR. KOEHLER: Chair, members of the Board. My
5 name is Tom Koehler at Pacific Ethanol. We've been
6 supportive of the LCFS since its inception and we are
7 supportive of the extension to 2030.

8 California has four ethanol plants, all of which
9 have been responding to the signals that the LCFS is
10 sending, and as all the plants invest on a daily basis in
11 lowering the CI and have some of the lowest CIs in the
12 country.

13 We are supportive -- also very supportive of the
14 inclusion of the CCS concept and would echo the more
15 technical comments about making sure that the program is
16 performance based and workable.

17 Also would like to flag the importance of fuel
18 neutrality in this regulation. And would note that if the
19 EV sector is going to have access to indirect renewable
20 credits, that in fact that might be something the other
21 fuels should have access to as well. It would be both
22 beneficial to the doability of the regulation and also
23 good for the environment.

24 Lastly, echo the comments of Geoff Cooper of the
25 RFA in terms of the ability of the ethanol sector as it

1 continues to lower the CI to dramatically bring reduced
2 tons of CO with further access to the market.

3 Thank you very much.

4 MS. KAPOOR: Good afternoon, members. Nina
5 Kapoor of the Coalition for Renewable Natural Gas. We are
6 a national trade association based in California comprised
7 of over 125 members, including the developers, marketers,
8 utilities, and organized labor that help to produce over
9 90 percent of the biomethane used in the Low Carbon Fuel
10 Standard today.

11 We would like to thank the Board members who have
12 spoken with us directly, the staff for their hard work and
13 due diligence on the development of the proposal, and also
14 the Board for the opportunities to provide some brief
15 comments today.

16 First, we support the proposed doubling of the
17 overall program target and extension through 2030.
18 However, we're very concerned about the proposal to weaken
19 the interim target to 7.5 percent by 2020. Our members
20 have already begun to invest hundreds and millions of
21 dollars in projects in anticipation of the current 10
22 percent target. To weaken the target in the middle of the
23 process would be devastating for industry. Therefore we
24 ask that the Board consider retaining the interim target.

25 Second, we support the addition of third-party

1 verification. However, we are concerned that the process
2 may be highly duplicative of existing third-party
3 verification we are already obtaining under the Federal
4 Renewable Fuel Standard. As such, we've asked that you
5 consider creating a complementary system whereby CARB
6 would accept a valid federal certification and add any
7 additional California-specific information that can be
8 verified separately. We suggest that this be done on a
9 pilot basis to ensure feasibility.

10 Third, we support the creation of a buffer
11 account to maintain program integrity. However, we
12 believe the proposal to hold all credits generated by a
13 producer in excess of their certified score removes any
14 incentive at all for producers to make operational
15 adjustments to maximize environmental performance. As
16 such, we have suggested a compromise where the first six
17 months' worth of excess credits would be held in the
18 buffer account, but any other credits generated thereafter
19 could be monetized by the producer. We feel this would be
20 win-win.

21 Thank you for your time and consideration. We
22 look forward to working with you and your staff on our
23 continued participation in the LCFS program through 2030.

24 Thank you.

25 MR. BOCCADORO: Madam Vice Chair and members,

1 Michael Boccadoro on behalf of the Ag Energy Consumers
2 Association. And AECA has the pleasure of working closely
3 not just with the dairy farmers, but the dairy digester
4 developers who have built virtually every project here in
5 California, and it's important.

6 I'm going to talk a little bit about the nexus
7 between LCFS and the importance of this as we work to
8 achieve dairy methane reductions. It's critical to CARB's
9 SLCP strategy, and the desired reduction in dairy methane,
10 which is why we support the extension of the LCFS and
11 believe a 20 percent target by 2030 is appropriate.

12 We're particularly interested in proposed LCFS
13 reform that will lead to greater opportunities for
14 in-state biomethane. I want to underline in-state. We
15 really need to get this program focused on in-state, not
16 out-of-state biomethane the 90 percent that Ms. Kapoor
17 just referenced. It's not coming from California. The
18 overwhelming majority of that is coming from out of state.
19 We need to get it focused here.

20 We've got 18 to 20 new dairy digester projects
21 that are currently in various stages of construction. All
22 18 of the ones funded by CDFA are transportation fuel
23 projects, which means they're going to be dependent on the
24 LCFS going forward. So it's critical. CDFA is going to
25 soon approve another 30 to 40 more dairy digesters in

1 California. This is part of a \$260 million investment of
2 GGRF that the State is going to be making that's going to
3 be matched by about \$750 million from the dairy industry,
4 and our partners.

5 So it's about a billion dollar investment and
6 it's going to be dependent on LCFS. So it's really
7 critical that we make sure that this program works for
8 in-state projects going forward. It's the highest and
9 best use. It's not only going to help achieve short-lived
10 short climate pollutant reductions. It's going to help us
11 reduce criteria pollutants in the San Joaquin Valley by
12 displacing diesel fuel.

13 Biomethane currently only accounts for seven
14 percent of the LCFS credits, 68 percent of the renewable
15 natural gas being used in natural gas trucks today is RNG.
16 And virtually all of that is coming from out of state.
17 Those projects do not provide short-lived climate
18 pollutant benefits here in California. And we need to get
19 those co-benefits of the short-lived climate pollutant
20 while we're getting our LCFS credit.

21 So this needs to change as we move forward.
22 We'll be working closely with your staff. We very much
23 appreciate the relationship we have with your staff. It's
24 been a -- you know, a lot of industries that are regulated
25 don't often get to say that. We can honestly say that we

1 have a good working relationship with Floyd and his team,
2 and the supervision being provided by Edie and Richard has
3 been fantastic.

4 So it's a good relationship. It can only get
5 better, but we've got to really focus LCFS on dairy
6 methane.

7 Thank you.

8 VICE CHAIR BERG: Thank you.

9 Before you go, Michael. We've heard some other
10 people testify about the temporary CI value. You didn't
11 mention it specific, but is there an --

12 MR. BOCCADORO: I did in my written comments and
13 we would concur with that. We did have about six specific
14 minor written comments and that is one of those. The
15 other one that actually wasn't in my comments, but I'll be
16 submitting something in addition to that, it's also being
17 able to bifurcate some of the fuel. We -- there are going
18 to be some mixed projects where there may be some on-site
19 energy production, and some gas going to transportation
20 fuel.

21 And the way the proposal is currently written
22 that's precluded. So we want to work on that as well.
23 But this is critically important. All those projects are
24 dependent on the LCFS working, and we'll be working
25 closely with Sam and his team on the pilot financial

1 mechanism in the coming weeks as well.

2 VICE CHAIR BERG: Thank you very much.

3 MR. BOCCADORO: Thank you.

4 MR. OLDENBURG: Vice Chair Berg, members of the
5 Board. My name is Curtis Oldenburg. I'm a senior
6 scientist at Lawrence Berkeley National Laboratory. I've
7 been carrying out research on geologic carbon
8 sequestration for 20 years. I'm also the editor and of
9 journal called *Greenhouse Gases: Science and Technology*.

10 And I'm here today to speak strongly in favor of
11 the uses of CCS for generating credits under LCFS. So as
12 a life-long Californian, and as a geologist, and working
13 with my group at LBL, geothermal energy, and energy
14 storage as well as CCS, really seeing how California
15 geology is very amenable to CCS.

16 We've gained a lot of knowledge about CCS over
17 the 20 years, and we can really say that it's very viable
18 in California, as well as in other places across the
19 country. The fact is California possesses an enormous
20 opportunity for CO2 storage. The Central Valley of
21 California has a sedimentary sequence of enormous
22 thickness providing huge opportunities. And there are
23 similar opportunities across the U.S.

24 So CCS is a technology that can be applied to the
25 whole range of stationary CO2 sources, with capture coming

1 from power plants to refineries from cement plants to
2 biofuel and bioenergy plants. So taken together, with
3 geologic formations existing, that provide this enormous
4 opportunity in California, as well as across the country,
5 and having large stationary sources across the country and
6 here, at which carbon can be captured, it's really a very
7 viable opportunity going forward.

8 And, in short, I would say that it's -- can be
9 considered an available technology to reduce CO2 emissions
10 from stationary sources, among which are these biofuel
11 plants. Now, California clearly needs all of the tools
12 that it has available. This is one that we have
13 available.

14 So I'm very confident that CCS can be carried out
15 successfully within the LCFS program to help meet
16 California's greenhouse gas emission goals.

17 Thank you.

18 MS. GALE: Good afternoon Board members.
19 Genevieve Gale, Central Valley Air Quality Coalition. A
20 lot has already been said to say the least, so I will just
21 echo a few comments I've already heard today. The first
22 echoing staff's and American Lung Association's concern
23 for NOx emissions produced by biofuels -- some biofuels.
24 Research supported by the Ford Motor Company found that a
25 Ford F-350 fueled by biodiesel produces more NOx emissions

1 than the same pickup truck fueled by petroleum diesel.
2 And coming from a region where diesel trucks are the
3 largest sources of NOx, this is a concern for us.

4 So I appreciate staff highlighting this, and
5 working on it as we move forward, and would support CARB's
6 oversight ensuring that climate programs like low carbon
7 fuel standard are not negatively impacting air quality.
8 And lastly, I'll say I also support Low Carbon Fuel
9 Standard credits being available at the point of sale,
10 especially in disadvantaged communities with low-income
11 residents having that incentive available at the point of
12 sale and -- is great, so people who don't have the funding
13 to weight for a rebate, they could use it right then in
14 the moment.

15 So thank you.

16 MS. TUTT: Hi. Eileen Tutt with the California
17 Electric Transportation Coalition. And we're here as a
18 group to testify to sort of speed up things.

19 (Laughter.)

20 MS. TUTT: You'll see the Southern California
21 Public Power Authority, Northern California Power
22 Authority, PG&E, Edison, SDG&E, SMUD, LADWP, and CalETC
23 are all here. We all support the CalETC letter. Please
24 read it.

25 It has a lot of details that I'm not going to go

1 over today. Many of these utilities also submitted
2 individual letters. I hope that you will read those,
3 because they do contain some technical information, as
4 well as utility-specific information, but we aren't going
5 to repeat that.

6 We do just want to say up front very much support
7 the staff's recommendation for a 20 percent carbon
8 reduction out to 2030. Appreciate so much the hard work
9 that the staff has put into this regulation that we have
10 long supported as an organization.

11 We do support the capacity credit proposal, both
12 for hydrogen fuel cell vehicles, the hydrogen stations and
13 for DC fast-charging. The truth is that infrastructure is
14 a huge barrier for all types of electrification, whether
15 it be fuel cell or plug-in electrics. And there's just
16 simply not enough infrastructure for either one.

17 DC fast-charging makes that -- these vehicles
18 available to a much broader spectrum of people, and we
19 would appreciate those capacity credits. We do not
20 support the staff's recommendation to allow
21 non-residential credits for anyone. We have specific
22 recommendations in our letter for how to treat those
23 credits, but we would like them to go first to station
24 owners, and then if aggregators want to step in and
25 aggregate, we're fine with, but there needs to be some

1 court of contractual agreement.

2 We also very much support a point of sale
3 statewide rebate funded through the LCFS credit -- base
4 credit value. And we are going to work with our partners
5 in the auto industry. This is not -- I totally agree with
6 Tesla, this is not an automaker versus utility issue.
7 This is an automaker and utility issue, as well as
8 dealerships, and other stakeholders.

9 So this doesn't require any modification to the
10 regulation. We can work collaboratively together and make
11 this happen and we're committed to doing that. I'm going
12 to let --

13 MR. HILLS: Hello. I'm Jason Hills from LADWP,
14 and I just have a 30 second add-on. Publicly-owned
15 utilities, such as the Los Angeles Department of Water and
16 Power are in an optimal position to utilize LCFS credit
17 proceeds to facilitate the deployment of charging
18 infrastructure, which is lacking in our city and in our
19 state, and is an impediment to the rapid adoption of
20 electric vehicles that we seek.

21 At LADWP, we provide generous charging station
22 rebates and install publicly accessible charging stations,
23 including in disadvantaged communities. And this program
24 significantly helps to reduce financial impacts on our
25 customers, and allows us to invest in programs that

1 benefit everyone. Thank you.

2 VICE CHAIR BERG: Thank you. And again, thank
3 you for coming as a group.

4 MS. REHEIS-BOYD: I just have myself.

5 (Laughter.)

6 MS. REHEIS-BOYD: Good afternoon, members of the
7 Board. I'm Kathy Reheis-Boyd, president of the Western
8 States Petroleum Association. I think you know this is
9 not one of our favorite rules. You've probably heard me
10 say that before. We still see that it's a difficult path
11 to sustainability into the next decade.

12 The carbon intensity targets are pretty daunting,
13 and there are still, we feel, some duplication with
14 transportation fuels under the Cap-and-Trade Program.
15 That being said, I do want to recognize the ARB staff has
16 been working in a really constructive way with lots of
17 stakeholders, lots of community outreach meetings, at lots
18 of workshops, so there's been some good discussion in all
19 these areas.

20 I would commend the staff for providing a
21 short-term carbon intensity reduction target, because
22 frankly, I think it really does enhance the program's
23 stability, and it also reduces any of what we see as some
24 undesirable market impacts.

25 But we're going to face some challenges with this

1 program going forward, and so we have three concepts that
2 we think would add value. Those are the Refinery
3 Investment Credit Program. We really support a
4 well-designed program in this area. It cannot only incent
5 short-term improvements, but also longer-term, incent more
6 trans -- transformational technologies to meet these
7 goals.

8 The current regulatory language does pose some
9 barriers on project qualification. So we've made
10 recommendation in our comments to you on that, that we
11 think will enhance the viability of the program, and again
12 continue those incentives for some of that transformation
13 technology.

14 The second one we call Buffer Account Concept.
15 We certainly support this concept. It greatly enhances
16 the approach. We have an idea to enhance the approach
17 called the reporting entity buffer account that we'd like
18 you to consider. It fits really well in the Low Carbon
19 Fuel Standard Data Management System, and it also allows
20 individual participants of the program to be treated
21 fairly and equitably. So it's something we hope the staff
22 considers.

23 Third, you've heard a lot on carbon capture
24 sequestration. We very, very much support work in this
25 area. It really does reduce the impact -- carbon impact

1 of what we do. And we see it as a very viable entity.
2 I'm not going to -- I'll just support Chevron's comments
3 and previous comments made. I won't go into those. But
4 this 100-year post-injection site criteria is really
5 problematic, if we really want to see some improvements,
6 where we can actually utilize this to deploy CCS under the
7 Low Carbon Fuel Standard program in an effective way. So
8 all three of those can give us some flexibility and
9 sustainability as we go forward.

10 And then last I know, this Board and the staff is
11 very sensitive about cost. The current cost estimates of
12 this program are pretty high as we look forward. And I do
13 appreciate your attention on cost containment provisions,
14 not only for consumers, businesses, but for us also,
15 refinery workers.

16 And I just note one reference in the report that
17 CARB put out that I think we should look at, if I may.
18 This is the Standardized Regulatory Impact Assessment that
19 was submitted in November of 2017. And I'll just note two
20 elements that cumulatively through 2019 and 2030, the
21 estimated total cost of the credits goes to go 8.8
22 billion. So I think cost containment is obviously why
23 it's key on your list, certainly on the businesses.

24 And then the third one you heard -- or the last
25 one you heard from another speaker, the credit generating

1 businesses compared to the baseline scenario for the
2 credits generated, 9.2 billion over that same period, but
3 only three billion of it is in California.

4 So that means that investment, a large part of it
5 is going outside the state. So it helps somebody's
6 economy, but it would be nice if it helped our own. So if
7 we could look at those two areas in that assessment CARB
8 did, that would be really helpful.

9 Thank you.

10 MR. HALL: Good afternoon, members of the Board.
11 My name is Jamie Hall, and I'm the Manager of Advanced
12 Vehicle and Infrastructure Policy for General Motors. And
13 as my overly long title suggests, I spend a lot of my time
14 working on policies and programs to commercialize and
15 support the market for zero-emission vehicles.

16 California clearly has some very ambitious vision
17 on this front, and so does my company. An GM believes
18 that the LCFS can and should play an increasingly
19 important role in supporting the market and the transition
20 to lower carbon transportation.

21 So that end, I want to briefly touch on two
22 things that have already been discussed at length today.
23 The first is hydrogen infrastructure. As noted in the
24 extensive earlier comments, hydrogen faces some unique
25 challenges, particularly in the early market. And I won't

1 rehash all those now, but I'll just say that we agree that
2 with the right safeguards in place, and the right
3 incentives in place, capacity-based credits could be an
4 elegant solution to some of these early market challenges.

5 It could help create a stable environment, help
6 drive private investment, and lower carbon hydrogen and
7 help the industry scale up and reduce cost.

8 Given the essential role of hydrogen,
9 particularly for larger vehicles in more difficult use
10 cases, creative policy approaches are really needed to
11 scale things up.

12 Now, I want to turn to electricity. As said
13 earlier by CalETC and Tesla and others, the utilities are
14 currently using the LCF revenues to support the market
15 through rebates and charging infrastructure. This is
16 great. This is a good thing, and we like it, but we think
17 there is substantial room for improvement in the way that
18 this is working today.

19 A number of stakeholders have raised interesting
20 questions about who should get the credits, how the
21 program should most effectively support the development of
22 a sustainable market. It may be that a much larger
23 point-of-sale rebate is the way to go, but there are
24 multiple ways to do this and there are a lot of tricky
25 implementation questions to work through.

1 So given the complexity of these issues, we
2 encourage additional stakeholder engagement with
3 utilities, automakers, and others in figuring out how best
4 to reach our shared goals. So with that, thank you for
5 the time on a Friday afternoon.

6 VICE CHAIR BERG: Thank you.

7 MR. CARR: Good afternoon, Madam Chair, members
8 of the Board, and hard working ARB staff. My name is
9 Michael Carr, and I proudly work for shell. I'm excited
10 to speak to you today, even at 3:10 p.m. about specific
11 improvements that amendments to the LCFS Program provide.

12 The improvements address opportunities that span
13 short-, medium-, and long-term horizons. All time frames
14 need to be tackled for a successful energy transition.
15 And Shell intends to be a leader in all three.

16 To start, the products we have safely a reliably
17 made at our Martinez refinery for over 100 years will be
18 needed in California for many more. Continue to make
19 these in California is the a best answer for both our
20 State's economy and reliability of fuel supply.

21 The refinery investment credit program, under
22 LCFS offers the opportunity in the nearer term to enable
23 investments to reduce the CI fuels needed today.

24 The changes we have recommended through WSPA will
25 make the program workable. Every additional project that

1 it may incent in our industry means more jobs, less GHG
2 emissions, and potentially criteria pollution co-benefits;
3 This is a win, win, win.

4 In the medium term we are facing a formidable
5 goal established by Governor Brown for five million EVs in
6 California by 2030. The proposed hydrogen infrastructure
7 pathway to help build out a critical mass of hydrogen fuel
8 stations supports this goal. Customers who must travel
9 longer distances or who simply have range anxiety may be
10 won over to ZEVs powered with hydrogen. It also holds
11 significant promise for fueling heavy-duty vehicles. We
12 appreciate the support of the Board for this pathway, and
13 working with staff to develop it.

14 Finally in the long term, we need to see uptake
15 of CCS globally and at scale. We at Shell see no credible
16 path to net zero carbon as soon as 2070 without it, as
17 outlined in our recently published Sky Scenario.

18 Towards this aim, we very much appreciate the
19 efforts by staff at ARB to develop protocols for CCS and
20 support a protocol being promulgated. We do share the
21 concerns over the 100-year monitoring requirement. You
22 have heard from many others who also support CCS. I would
23 like to highlight a couple of other concerns.

24 Firstly, the volumes of CO2 that are proposed for
25 impounding into buffer accounts seem excessive and well

1 beyond what other jurisdictions are requiring. Second, it
2 seems the rule as written could try to impose California
3 requirements on crude and fuel produced outside the state
4 in a way that would be unhelpful to the cause of growing
5 CCS at scale. We look forward to working with staff and
6 successfully addressing these concerns.

7 In closing, I would like to quote a senior leader
8 in Shell who says that we are not running from the energy
9 transition. Rather, we are running towards it. My
10 addition to his quote is this will be a marathon. So
11 thanks again to the staff for their hard work, and thank
12 you for listening to and considering my comments.

13 CHAIR NICHOLS: Thank you.

14 MR. MONTGOMERY: Good after -- excuse me. Good
15 afternoon, Madam Chair and members Pete Montgomery here
16 on behalf of the Global CCS Institute in strong support of
17 the inclusion of the Low Carbon Fuel Standard of a
18 protocol and quantification methodology for CCS. The
19 Institute is an international member-led organization, and
20 our mission is to accelerate the deployment of CCS for
21 tackling climate change and energy security.

22 I wanted to focus my comments quickly today on
23 making sure it's clear that CCS is not a future solution.
24 CCS is a real functioning technology that is in operation
25 around the world. There are 17 large-scale CCS facilities

1 in operation globally, with four more coming on line in
2 the next 12 months. These 21 facilities capture and
3 permanently store 37 million tons of CO2 per year, which
4 is the equivalent of taking eight million cars off the
5 road.

6 In the Institute's 2017 report on the global
7 status of CCS reported that 220 million tons have been
8 documented to have been stored to date. In North America
9 alone, there are 12 operating facilities, 10 on industrial
10 applications and two on power plants. Recently, I've had
11 the pleasure of taking CARB staff to visit two of these
12 operating facilities: NRG's Petra Nova plant outside of
13 Houston, which is the world's largest post-combustion
14 project; and ADM's industrial carbon capture and storage
15 project at their ethanol plant in Decatur Illinois.

16 The Institute has worked closely with a broad
17 coalition of stakeholders that have submitted comments
18 detailing the critical nature of CARB adopting workable
19 CCS regulations as part of the LCFS. And we support the
20 call for the Board to direct staff to work to ensure that
21 what gets incorporated into the LCFS does not provide a
22 barrier to near-term deployment of critically needed CCS
23 projects.

24 This technology is being deployed around the
25 world to reduce CO2 emissions, and we look forward to

1 California getting in the game.

2 Thank you.

3 CHAIR NICHOLS: Hi.

4 MR. EDGAR: Madam Chair and Board members. My
5 name is Evan Edgar. I'm with the California Compost
6 Coalition and clean fleets advocates. We are the compost
7 generators, we are the AD operators, we make RNG, we
8 operate fleets, and we haul organics from the landfill and
9 haul compost to the farm. We're in-state, community
10 scale, closed-loop system. We make carbon-negative fuel
11 at net zero greenhouse gas facilities, with near zero NOx
12 engines, with near-zero pesticide compost, with zero
13 waste.

14 We are the zero heroes, and it's not cheap. We
15 support BAC comments today and fellow RNG operators. We
16 support staff's recommendation to redefine RNG to put it
17 in an engine and not the pipeline. After all, the engines
18 use RNG and not the pipeline. So we support staff's good
19 work on making sure that the manufacture's spec for the
20 engine defines RNG.

21 But you are concerned about the CI intensity,
22 such as the waste water treatment generators of RNG, and
23 the dairies. The default temporary CI is zero for
24 anaerobic digestion. And we've been doing carbon-negative
25 fuel for years.

1 And the pathway submitted takes about two to
2 three years in order to get a pathway, in order to get
3 carbon negative. We're doing some right now on the verge
4 of certification about 100 to 200. And to be carbon
5 negative, minus 25 for default and now go to zero would
6 really hurt an emerging industry.

7 We'd like to do a Tier 1 simplified CI
8 calculator. And I think that staff is very familiar with
9 anaerobic digestion. Because right now, if we don't get
10 that, it's going to be somewhat of a buzz kill for a lot
11 of developments I'm working on.

12 Once again, we're in-state, making in-state RNG.
13 We're community scale, and we feel that we can take the
14 heavy-duty diesel fleet off of diesel now with RNG fuel
15 with a near NOx engine in disadvantaged communities. It's
16 a near-term solution for short-lived climate pollutants.

17 We're losing momentum by having a CI go to zero
18 as a temporary a CI. And plus, with intensity going to
19 7.5 instead of 10, once again the demand for RNG is at a
20 loss. So we have an emerging industry. We're ready to
21 get organic waste out of the landfill. We're ready to be
22 zero waste. And this hiccup on CI for zero is setback.
23 So please reconsider allowing us to remain carbon
24 negative. Thank you

25 CHAIR NICHOLS: Thank you.

1 MR. BARBOSE: Good afternoon, Chair and Members.

2 CHAIR NICHOLS: Hi.

3 MR. BARBOSE: My name is Jason Barbose. I'm with
4 the Union of Concerned Scientists. And we'd certainly
5 like to commend staff for developing the proposal to
6 extend the program to 2030. The proposed amendments
7 really build on the program's success and set it up well
8 to increase in ambition over the coming decade. We
9 submitted written comments, so I'll just summarize them in
10 five points.

11 First, we support CARB's proposed 20 percent
12 target for 2030, but we note the analysis we commissioned
13 shows the potential for higher targets, particularly
14 post-2025. And so we encourage this Board to monitor
15 progress, and raise the targets as appropriate to ensure
16 LCFS continues to support investment in low carbon fuels
17 through the course of the coming decade.

18 Two, we support the proposal to allow for
19 indirect accounting for renewable electricity to recognize
20 and encourage the use of renewable energy and smart
21 charging.

22 Third, we encourage CARB to expeditiously move
23 forward proposals that ensure the use of credits generated
24 from residential EV charging better facilitate EV sales,
25 particularly moving toward point-of-sale rebates to more

1 effectively influence purchase decisions.

2 Fourth, while we recognize the importance of
3 hydrogen as a low carbon and zero-emission fuel, we do not
4 support the stakeholder proposal to provide credits based
5 on infrastructure capacity, rather than fuel sold.

6 With that said, if the Board does decide to
7 proceed, we do propose some importance boundaries on this
8 approach in our written comments and encourage you to look
9 at those.

10 Fifth, we support the proposal to account for
11 carbon capture and sequestration within the LCFS in order
12 to accelerate deployment of this critical technology and
13 reduce emissions from the fuel supply chain for both
14 biofuels and fossil fuels.

15 And then finally, today I submitted a petition
16 for more than 1,700 UCS supporters across California in
17 support of extending the program to 2030, and increasing
18 the program's intensity target to 20 percent. I did not
19 realize that this would precipitate extensive photocopying
20 at the last minute, so my apologies for that. But thank
21 you for accepting that petition --

22 (Laughter.)

23 MR. BARBOSE: -- and thank you for your work on
24 this program.

25 (Laughter.)

1 CHAIR NICHOLS: Petition accepted.

2 MR. DOUGLAS: Thank you, Chair Nichols. Saving
3 the best for last, I see.

4 CHAIR NICHOLS: You really are the last speaker.

5 MR. DOUGLAS: Thank you very much. I'm Steve
6 Douglas with the Alliance of Automobile Manufacturers
7 representing 12 of the world's best car companies, or 75
8 percent of California's new vehicle market.

9 This Board, and the legislature, and the Governor
10 have all established very aggressive zero-emission vehicle
11 goals ranging from a million vehicles in 2023 all the way
12 up to four to five million zero-emission vehicles by 2030.

13 For our part, for the manufacturers' part, they
14 currently offer over 40 ZEV models. And over the last
15 eight months, virtually every major car company has
16 announced auto electrification plans that will more than
17 double those ZEV models.

18 So -- and those vehicles come in every shape and
19 size from small car to large car, SUV to minivan, short
20 range to long range, economy to luxury two-wheel drive to
21 all-wheel drive.

22 In total, by 2025, automakers are likely to
23 invest in excess of \$100 billion on ZEV research,
24 development, production, and promotion. So I say that to
25 say this, that if we fail to meet our targets, it will not

1 be because of a lack of effort, or a lack of investment by
2 the automakers. It will not be because of a lack of ZEV
3 models. It will be because we collectively have failed to
4 properly build the complementary measures, such as
5 incentives, infrastructure, low and simple -- low-cost
6 fuels and simple fuel cost, and consumer awareness.

7 The LCFS Program offers a tremendous opportunity
8 to invest in this, and to support the ZEV market.
9 However, today, the LCFS Program, as it relates to ZEVs,
10 is kind of languished, and it's not being used as
11 effectively as it could be.

12 For example, each utility offers a different
13 rebate program, some high, some low, but generally lower
14 than what we would expect. Each utility offers a
15 different way to apply for it and a different mechanism
16 for doing that.

17 So our goal, and I think ours collectively, is to
18 provide the biggest acceleration for the ZEV market. And
19 the Alliance, our members, we propose working with staff,
20 the other automakers, utilities to develop a program that
21 will provide the best acceleration of the ZEV market.

22 And one possibility is as several have said is
23 larger, more representative statewide rebates that are
24 applied at the point of sale, but I'm sure there are other
25 ideas.

1 So again, we support this program and we think it
2 can be made better than it is today.

3 Thank you.

4 CHAIR NICHOLS: Thank you.

5 Well, that's a good point to end on.

6 So let's now move back to a discussion. This is
7 an action that's going to require Board action, so I'm
8 going to close the record here, I guess, as far as the
9 witnesses are concerned. And we'll just move to Board
10 discussion.

11 I, however, for those of you who have not
12 followed this process in detail before, the record is
13 closed for the time being, but it will be reopened on any
14 proposed amendments when the 15 Notice of Public
15 availability is issued. And at that point, there will be
16 a further opportunity for comment.

17 But in the meantime, in the period between now
18 and when the 15-day notice is issued, there's no -- we
19 don't accept any comments as part of the official -- as
20 part of the official record.

21 So let's move it back to the Board. I would like
22 to call upon one of the authors. I think he -- we
23 sometimes call him the father of the Low Carbon Fuel
24 Standard. It depends on how we're feeling about the Low
25 Carbon Fuel Standard at that particular moment. But

1 hearing it's got a lot of support right now. And it
2 certainly seems to be doing a good job. I think we can
3 give him definitely some of the credit.

4 I'd like to ask Dan Sperling to give us some
5 reflections on what we're hearing today and some thoughts
6 about moving forward.

7 BOARD MEMBER SPERLING: Well, you're right, I'm
8 feeling good about it today.

9 (Laughter.)

10 BOARD MEMBER SPERLING: So I'll be the father for
11 the day. I do want to start and reiterate what many
12 people have said that what the staff has done here is
13 really exceptional. Many stakeholders have testified to
14 that. They've been extraordinarily responsive,
15 extraordinary competent at making a lot of these
16 refinements and changes.

17 And, you know, it really has -- the Low Carbon
18 Fuel Standard really has become the gold standard for,
19 well, rulemaking I think generally, but for creating a
20 policy to decarbonize fuels. This is the model that rest
21 of the world is looking at. We're seeing Canada is in --
22 is well along in adopting something that looks like this.
23 Brazil is moving in this direction, as well as Oregon, and
24 British Columbia that already did. So this is important
25 what we're doing.

1 And what the staff is doing is taking -- so those
2 of us that were involved in this, and I see one other
3 person here, Mike Scheible, that was part of the gang 11
4 years ago when we were -- came up with the initial design,
5 which, by the way, was about 30 or 40 pages. And I just
6 looked at the new one here.

7 (Laughter.)

8 BOARD MEMBER SPERLING: This is a brick.

9 And so I'll actually say something I was going to
10 to say at the end, and that is I really think we've done
11 an exceptional job of working this out over time. We
12 probably are to the point that as a long-term plan,
13 meaning, you know, post this process, thinking about how
14 to start shrinking it, you know, in terms of making it
15 more replicable, easier to link to by other entities,
16 because at end of the day, if it's just California, it
17 doesn't mean much. This is a case where the rest of the
18 world, or at least big chunks of it, need to be following
19 us.

20 So I talked to Sam -- Sam Wade about this, and he
21 said I don't know if I can say it out loud here --

22 (Laughter.)

23 BOARD MEMBER SPERLING: -- but he agreed that we
24 should have a staff person dedicated to that job of how to
25 simplify this.

1 I didn't get it in writing, but --

2 CHAIR NICHOLS: Putting the program on a diet.

3 BOARD MEMBER SPERLING: So -- okay. So there's
4 four items I'd like to address here. Two of them are
5 changes that have been made as part of this process that
6 we've heard a lot about here that I think are really good,
7 really important changes.

8 One is the jet fuel -- alternative jet fuels, and
9 bringing them into the program. In the beginning we
10 didn't, because we were concerned about jurisdictional
11 issues and so on. And I think they've come up with a very
12 clever effective way of bringing it in, and it will create
13 a model that we can build on in the future.

14 And the other change that I think should be
15 praised is the carbon capture and sequestration. This is
16 again something we've talked about for years. It's
17 something, you know, around the world they've asked us to
18 do over the years, and I think we're now doing it.

19 And I know there's a lot of controversy -- or
20 there's some controversy over it. Some people say, you
21 know, it's kind of like, I don't know, I guess a drug or
22 something, if you tolerate, you know, the oil -- you know
23 using more oil, which is basically what we're doing is
24 extending the life, you, know that's against the long-term
25 goals.

1 But I think that the reality is we are going to
2 have oil for a long, long time. And we're are better off
3 capturing and sequestering as much of it as possible, as
4 part of a 21st century strategy.

5 So I think -- and you heard other people saying
6 this, I think it's a really fundamental key strategy for
7 us and others.

8 Okay. So then 2 things of -- two new ideas here
9 that have been discussed that I want to push a little
10 further. And I think one of them definitely should be
11 part of our 15-day change, which means putting it into the
12 program. I never did quite understand why we call it
13 15-days. Maybe someone -- it's been explained to me, but
14 it never made sense, so --

15 (Laughter.)

16 BOARD MEMBER SPERLING: -- so I don't remember
17 it.

18 So anyway, as one of the changes to the pro -- to
19 the -- is it that I think you've heard many people talk
20 about that I think is important, and we should strongly
21 support is giving, what we call, capacity credits for
22 hydrogen, but not just for hydrogen also for fast chargers
23 for electric vehicles.

24 The hydrogen one is further along. They've have
25 actually -- you know, the different companies and entities

1 have put a lot of effort into coming up with a proposal.
2 I think it makes a lot of sense. I think that we should
3 support it. We -- recognizing that it is a departure,
4 it's a small departure from fuel neutrality, but I think
5 we should support it, because it really is needed to
6 stimulate a rapid build-up, scale-up of hydrogen stations,
7 and possibly fast-charging stations as well for
8 zero-emission vehicles.

9 And I would say for zero-emission vehicles, for
10 electric vehicles, we should take into account the Lyft,
11 and Uber, and other companies that are starting to
12 electric -- use electric vehicles. And they need to have
13 fast charger for that to work. And so that is a reason to
14 support it.

15 So I would say this is an approach that's
16 appropriate, because it does align our fuel and vehicle
17 policies. It's in line with the Governor's recent ZEV
18 Executive Order. So we should be committed to doing this.
19 And I think the -- I would suggest, I would propose that
20 we have a 15-day change to allow for this capacity-based
21 crediting.

22 And it should be done in a way that acknowledges
23 what's already being proposed, and that is it will have a
24 sunset, and it will have a cap, and it won't be a big part
25 of the total credits. It was estimated one to two

1 percent. And I -- you know, I skimmed through their
2 calculations and it seemed about right.

3 And so I would say we definitely do the hydrogen,
4 and then if a good proposal can be put forward, you know,
5 in the timeframe for fast-charging, that should be done
6 also. If that requires more time, then that can be a
7 future action, but both of those.

8 The other item is the question about point of
9 sale. And I think that's a little more challenging. I
10 think we should say, okay, so I'm interested in how the
11 staff and how the Board responds to this, but I think
12 we -- we insist that there be -- that these credits go to
13 the electric vehicle buyers at point of sale.

14 You know, otherwise, we're wasting that money.
15 You know, research shows that if you don't give it at
16 point of sale, you lose half to three-quarters of the
17 value of those credits.

18 So it's against the whole mission and goals of
19 the LCFS to do it the way it's being done now. So I think
20 we need to change it now. I don't have a personal opinion
21 whether what the arrangement is between utilities and the
22 car companies. I just think that, you know, we should
23 leave it to staff, work with those parties, but insist
24 that they come to a resolution. And, you know, clearly,
25 the electric utilities should get first shot at it.

1 You know, if they can get their act together to
2 do this, then I think that's appropriate. But there
3 has -- you know, maybe imposes a timeframe, and I'm not
4 sure how to -- how that goes.

5 CHAIR NICHOLS: I agree with you in terms of the
6 effectiveness of the program. It's -- if we're going to
7 go all in on marketing of electric vehicles collectively
8 as being solution, we've got to make the cars affordable,
9 and we've got to demonstrate that the incentives that
10 we're providing actually are there.

11 I am -- there is one, I guess, amendment to your
12 amend that I would want to propose, and that's to insist
13 that it be a statewide program, that it be applicable
14 statewide. Otherwise, we end up with one system for the
15 people who are under one utility, and another for the
16 other. So that may make it more challenging, but it may
17 make it easier, too, if it's coherent.

18 Sorry. If I -- I'll just let you finish and then
19 I'll recognize others who want to speak too.

20 Is that it?

21 BOARD MEMBER SPERLING: No, I'm finished. And I
22 meant to say that, so I agree totally.

23 CHAIR NICHOLS: Oh, okay. Great. All right.
24 That's easy then.

25 So, Mr. Gioia.

1 BOARD MEMBER GIOIA: Starting with your second
2 proposal, I totally agree that I think there's an
3 opportunity to align a couple of goals here is using the
4 LCFS more effectively to achieve this -- the goal we've
5 set out, which is a much more effective, right, point of
6 sale incentive.

7 I mean, I talk to many people myself. You know,
8 I reflect on my own purchase of an electric vehicle -- or
9 least of an electric vehicle. The current rebate through
10 the utilities is essentially almost useless, in terms of
11 incentivizing you to purchase an electric vehicle, or
12 lease.

13 So I think that should also be a 15-day change
14 with staff facilitating a discussion to reach some kind of
15 resolution or solution that we can enact this year. I --
16 and I agree, I think we can set out principles. It's such
17 a complicated issue. We've heard from utilities. We've
18 heard from automakers. We even heard from the CCAs. So
19 it's really about bringing together the stakeholders and
20 coming up with a solution that can be adopted, again, this
21 year, because we risk -- with the federal tax credits
22 running out, right, with really no expectation that those
23 tax credits are going to get extended, I'm very concerned
24 that we are going to -- you know, the incentive that's
25 currently available to purchasers or lessees of electric

1 vehicles is going to substantially decrease pretty
2 quickly.

3 And so I think we need to take advantage of this
4 opportunity now. Otherwise, there will be a gap. So we
5 can provide further direction, but I agree with that idea,
6 Dan.

7 With regard to the hydrogen, I mean, if we really
8 want to be truly fuel neutral, we really should expect
9 that the DC fast-charger be part of it, and not accept
10 just doing the hydro -- doing it for hydrogen and not
11 doing it for the fast charger.

12 So I'd like to encourage that we find the
13 solution for the fast charger as well, so that we can
14 incentivize more -- more intense installation of
15 fast-chargers. I would really -- would like to see that
16 come back as well under the 15-day.

17 I would not be as supportive if it was just
18 hydrogen, because then we're really not being fuel
19 neutral.

20 CHAIR NICHOLS: Well, being -- I don't want to
21 engage in too much hair splitting here, but fuel neutral
22 is one thing, fuel identical is another. They're not
23 identical, and for many reasons, one of which, of course,
24 is that we're so far behind in terms of availability of
25 hydrogen fuel. And because the lack of visible fueling

1 stations is holding back the market, it's holding back
2 introduction of vehicles as opposed to the electric
3 vehicles, where we still need the fast chargers without a
4 doubt, but there's a lot more available vehicles to use
5 them.

6 If we make a mistake and there get to be too many
7 of them, it won't really be too terrible, because they
8 will ultimately get used.

9 So I'd like to call on any other Board members
10 who want to speak on this item, but it's -- we're
11 converging on, I think, a resolution that would include
12 these additional instructions to the staff.

13 Ms. Berg.

14 VICE CHAIR BERG: Yeah. I also want to commend
15 staff and thank the stakeholders for a really great
16 discussion. I'd like to jump in on the point of sale as
17 well, and encourage that I have personally been involved
18 with the stakeholders. I've been invited by CalETC to
19 facilitate a meeting next week. They're very serious
20 about this, and it is complicated.

21 We've been talking about how important it would
22 be for CVRP, but it isn't easy. So rather than a 15-day
23 change, we certainly could look at -- I'm not sure what
24 the change would be anyway right now, because if the
25 utilities agree, and can put together a statewide change,

1 it wouldn't change anything with the LCFS. There might be
2 some permission needed with the PUC.

3 And so if I may recommend, or piggy-back
4 Supervisor Gioia on your recommendation is that we do ask
5 staff to follow through and bring back what the options
6 are, and so that we can move forward with a point of sale.

7 BOARD MEMBER GIOIA: So what would be the timing
8 of that?

9 VICE CHAIR BERG: Well, I would recommend that we
10 would come back at the same time that we do rehear the
11 second --

12 CHAIR NICHOLS: That would be September.

13 VICE CHAIR BERG: -- in September.

14 CHAIR NICHOLS: On the current plan.

15 VICE CHAIR BERG: And so where are we, how fast
16 can we do it, what have the stakeholders come back with?

17 BOARD MEMBER GIOIA: Yeah, I --

18 BOARD MEMBER SPERLING: Don't we need to impose a
19 nearer target to make sure it happens though?

20 CHAIR NICHOLS: Yeah, I think so. I am concerned
21 that this is one of those issues that can easily get
22 gummed together. There are so many conflicting or
23 competing different sight variations on how a program like
24 this could work, and any of them may be fine. And it's
25 not that I'm indifferent to the implementation issues. I

1 understand that they're important. But unless we go to
2 the utilities and to the PUC and say this is what we want,
3 and this is what we're going to do, I think we'll be
4 talking about this long into the future.

5 And I think the time has come if we're going to
6 implement the Governor's Executive Order, and really make
7 a difference here that we need to be a little more
8 aggressive than we would be otherwise.

9 VICE CHAIR BERG: Well, my guess is that I think
10 the stakeholders are hearing us loud and clear. And so
11 that coming back certainly is going to make my job easier
12 next year -- next week for the meeting, but I'm
13 encouraged. And so I suggest a parallel path then,
14 BECAUSE I know the 15-day change, we wouldn't have the
15 meat behind it. All we could do is do it.

16 BOARD MEMBER GIOIA: The 15-day change would
17 provide, I think, some strong -- strong incentive or
18 strong hammer to really get this done. Because the
19 concern is this -- there's been -- this discussion has
20 been out there for awhile. But until the pressure I think
21 is placed on the stakeholders, we're not going to have a
22 resolution.

23 VICE CHAIR BERG: Okay. And so then moving on,
24 what -- I have another one. I'm very supportive of the
25 hydrogen. And I have a lot of small details. I am

1 trusting that because it's in the record that I can follow
2 up with staff on those details. Am I correct about that?

3 ISD TRANSPORTATION FUELS BRANCH CHIEF WADE: Yes,
4 absolutely.

5 VICE CHAIR BERG: Thank you so much.

6 CHAIR NICHOLS: Okay. Others.

7 Ms. Mitchell.

8 BOARD MEMBER MITCHELL: Thank you, Madam Chair.

9 This is a really complicated regulation. But
10 based on a lot of the things we've heard this morning, I'm
11 just going to raise some of the points that we -- we
12 heard.

13 One was the target, and is the 20 percent right?
14 There's a concern that if we set it too low, there will be
15 excess credits in the maker. So I would like staff to
16 take a look at that.

17 The other thing is on the verification, it's been
18 raised that there aren't many companies that can do the
19 verification. There could be conflict of interest. I
20 think that's something we just ought to take a look at as
21 well.

22 On CCS, the protocol for that, and the 100 years
23 time period, that seems to be controversial. Is there a
24 better way to do that, that puts more flexibility into
25 the -- into this system?

1 Let's see, on the jet fuel, there was an issue
2 that parity with conventional diesel with the CI levels.
3 And so I think we should have a look at that as well, the
4 benchmark level and the parity issue.

5 Let's see, one thing that was raised was small
6 businesses using CNG. Should there be an exemption for
7 them and for the same business or businesses that are
8 using propane?

9 One thing we see with this -- with this rule is
10 it's creating jobs. It's creating a vast number of jobs
11 in ethanol production, et cetera. So I think it's really
12 good. At the same time, small businesses are important to
13 the economy, so we don't want to shut them out with some
14 rules that they can't meet. The hydrogen pathway, I'm
15 very much in accord with what's been proposed, as well as
16 the point of sale issue.

17 One more thing was community choice aggregation.
18 They raise some interesting issues with respect to the
19 generation of incremental credits depending upon the
20 supply of clean energy on the grid. So I would like us to
21 take a look at that, and consider how that might impact
22 CCAs. They're going in this -- in the state as you may
23 have noticed. So that's it from me.

24 Thank you

25 CHAIR NICHOLS: Well, these are questions that

1 you're raising. Do you want to hear a response from the
2 staff on those points, because we are going to be taking a
3 vote, I believe, fairly shortly. So these could be --
4 they may need to be addressed as some of their responses
5 to comments anyway. But --

6 BOARD MEMBER MITCHELL: Sure. Yes. Certainly.

7 CHAIR NICHOLS: -- if you'd like to hear more.

8 BOARD MEMBER MITCHELL: Thank you.

9 CHAIR NICHOLS: Okay. Let's -- let's do that
10 then if we may.

11 INDUSTRIAL STRATEGIES ASSISTANT DIVISION CHIEF
12 SAHOTA: Good afternoon, Board members. I will start on a
13 couple of the topics, and then Sam Wade will pick up a few
14 of the other topics.

15 Cor CCS 100-year permanence requirement, when we
16 think about impacts of emissions, we think about it on as
17 a global warming potential of 100-year global warming
18 potential in the atmosphere. So when we think about
19 benefits, we have to think about it also on 100-year
20 global warming potential.

21 And so that's why there's a 100-year permanence
22 requirements. I think the science supports that, and we
23 already have a precedent in the Cap-and-Trade Program
24 where we have a sequestration protocol for forestry, which
25 requires 100 years of monitoring and assessment to make

1 sure that the carbon isn't liberated after it's been
2 credited and given some kind of monetary value.

3 With geological sequestration, there's different
4 types of risks for loss of that CO2 once it's been
5 sequestered. It's a lot more stable. And so what we're
6 thinking about is moving to a process where there is some
7 frequency up front in looking at monitoring and assessing
8 if the plume is stable once it's been sequestered under
9 ground.

10 And once there's enough data to show that it's
11 stable, then we can reduce three frequency, but you would
12 still need to demonstrate that it is stored for 100 years.
13 We would have some relief on how much effort would go into
14 going on check on that plume year to year or the frequency
15 that you check on it. So that's how we're proposing to
16 work through that issue.

17 On the verification program, it's interesting,
18 because this is the second program at ARB where we've
19 introduced third-party verification for reporting. It's
20 very similar to mandatory reporting -- the Greenhouse Gas
21 Reporting Program. In that program, when we started it
22 seven, eight years ago. There were no verifiers, no
23 companies anywhere in the U.S. that provided those
24 services. We had 450 plus reporters that were going to
25 need that program to be available within a year of that

1 regulations being adopted.

2 BOARD MEMBER MITCHELL: More jobs, right? More
3 jobs.

4 INDUSTRIAL STRATEGIES ASSISTANT DIVISION CHIEF
5 SAHOTA: More green jobs. LCFS has about 200 reporters in
6 it. Some of those folks are already comfortable with an
7 part of the MRR reporting program. What we are going o be
8 doing is phasing in the verification program in a very
9 similar way, in a way that we know we can be successful,
10 because we've been successful.

11 We'll be leveraging the existing verifiers in the
12 mandatory reporting, program because some of those do have
13 fuel expertise, and refinery expertise. And we will be
14 trying to leverage some of the U.S. EPA verifiers that
15 already provide similar services.

16 So as we work through that process, we will be
17 phasing it in and trying to pull in as many of the
18 existing resources we have available. And we actually are
19 beginning from a much better place than we did for the MRR
20 program about eight years ago. So I'm confident we can
21 have that successfully rolled out.

22 ISD TRANSPORTATION FUELS BRANCH CHIEF WADE:

23 Thanks. And with respect to the targets, you
24 know, staff has conducted scenario analysis. We've been
25 working with stakeholders for almost two years on this

1 issue. And what we've been aiming for the entire time is
2 aggressive, but achievable targets. When I say
3 achievable, I mean that across a variety of scenarios,
4 where we look at different levels of technology deployment
5 across ZEV fuels, advanced low carbon biofuels, gaseous
6 fuels like CNG, that we can achieve the targets, even if
7 one of those slightly falls down with respect to what we
8 expect they can achieve.

9 And we're not trying to stack up success across
10 all those areas and rely upon that. So we have done
11 scenarios with higher targets. We, in the staff report,
12 had a 25 percent scenario and it had almost twice the cost
13 of the 20 percent, which is, of course, staff's proposal
14 here.

15 And so we believe that the external analyses that
16 the folks have brought forward are credible, as far as
17 technology feasibility, but they do not contain cost
18 estimates. And I think that, you know, the proponents of
19 a higher target should have to bring forward those types
20 estimates to the Board.

21 With respect to sort of our overall discussion
22 with stakeholders about these issues, we agree with Union
23 of Concerned Scientists that if we see technology success
24 across all these areas, we can, of course, adjust the
25 targets at some point in the future. And we think that

1 that's a smarter way to proceed. With respect to your
2 concern about over-allocation or the supply of credits
3 being too high, one indication of that would be low credit
4 prices. And we actually have the highest LCF credit
5 prices today that we've ever had in the history of the
6 program.

7 So. Okay. And with respect to the alternative
8 jet fuel benchmark, we were initially concerned as some of
9 the stakeholders mentioned about displacing some of the
10 on-road alt diesel use and have that go into the jet pool.
11 We have looked at that issue more. We believe that it may
12 be the case that we were too conservative, and so we'd be
13 happy to work with stakeholders during the 15-day period
14 to look at setting the benchmark in a way that would
15 generate slightly more credits.

16 I think the real key thing here is getting that
17 fuel into the system, so that, you know, the big disparity
18 that exists today is eliminated. But we can work with
19 stakeholders more on that issue in the 15-day time period.

20 With respect to the small suppliers of CNG and
21 propane, we have talked to stakeholders a little bit about
22 that issue. One, a potential solution that wouldn't
23 involve completely exempting them would be asking larger
24 entities like SoCalGas to serve as an aggregator for the
25 small stations.

1 They have the authority to do that under current
2 PUC direction on this program. And we think that they
3 could, you know, actually step forward and capture the
4 existing benefit that's given for fossil gas sold through
5 those stations, and, of course, accelerate the transition
6 to renewable natural gas and renewable propane as well.

7 And so SoCalGas is an obvious aggregator in the
8 case of CNG. In the case of propane, we'd have to work to
9 find the right entity, but I'd just like to put that
10 forward as another, as opposed to just excluding them.

11 BOARD MEMBER SPERLING: So while Sam is on a
12 role, there were a bunch of -- a few other little things.
13 Maybe we should, you know, I was just going to cite them.

14 CHAIR NICHOLS: Yeah. And I have a couple other
15 Board members who I believe have their hands up too, so
16 why don't we let them --

17 BOARD MEMBER GIOIA: There was one question they
18 didn't respond to, and -- because I wanted to ask.

19 CHAIR NICHOLS: Okay. Sure. Go ahead.

20 BOARD MEMBER GIOIA: So I didn't -- I don't think
21 you responded to the -- unless I missed it --

22 ISD TRANSPORTATION FUELS BRANCH CHIEF WADE: The
23 CCA.

24 BOARD MEMBER GIOIA: -- the CCA.

25 ISD TRANSPORTATION FUELS BRANCH CHIEF WADE:

1 Yeah.

2 BOARD MEMBER GIOIA: So I appreciate that you
3 raise that issue. There was a letter, right, from a
4 coalition of all the CCAs in the State. And as you know,
5 the San Francisco Bay Area now is pretty much fully
6 covered by CCAs, and Southern California is heading down
7 that route. And it may very well be in the near future
8 that a majority of the residents of this state are covered
9 under CCAs.

10 So knowing that this is still rolling out, and
11 there's some time, so it doesn't need to be -- occur as
12 part of a 15-day notice, I think it would make sense to
13 put together some kind of work group to look at the
14 issue -- the Emergence of CCAs, and how that means we --
15 we may need to change the mechanics of the system. There
16 were a number of issues raised. I don't want to go into
17 them in the letter that we received from the -- they call
18 it the Smart EV Charging Group.

19 So I think if we could have some type of process
20 to allow staff to engage further to come back in the
21 future with the changes that would occur to give CCAs a
22 fair shake in this, which I don't think they have. And so
23 that's been a lot of the future of electricity in
24 California in terms of providers. So what -- how would
25 you -- what's your through on that?

1 ISD TRANSPORTATION FUELS BRANCH CHIEF WADE:

2 Sure. Well, let me say that staff's proposal
3 does have the opportunity for the CCAs to claim the credit
4 for when they green the electricity beyond the grid
5 average. And so that is a starting place for them to
6 participate in the system. I think if you were having
7 these broader conversations with both the utilities and
8 the automakers about how to design the most effective
9 rebate mechanism, you could potentially include the CCAs
10 in that discussion as well. Because if you can get the
11 supplier of electricity to be from zero carbon sources,
12 the total rebate value can go up.

13 BOARD MEMBER GIOIA: Um-hmm. Right. So they
14 should be then.

15 ISD TRANSPORTATION FUELS BRANCH CHIEF WADE:

16 Sure, yeah.

17 CHAIR NICHOLS: Okay. Let's just -- yes, Mr.
18 Eisenhut.

19 BOARD MEMBER EISENHUT: Okay. Thank you, Chair
20 Nichols. I had three items on my list. The first was
21 capacity, which Dr. Sperling has -- or Professor Sperling
22 has addressed, and I'll just affiliate myself with his
23 remarks.

24 And the second was point of sale, which Dr.
25 Sperling has addressed. And I'll affiliate myself with

1 his remarks as revised to include a statewide consistent
2 program.

3 The third is a very small technical issue. And I
4 don't need a staff response, but I'd just like to enter it
5 as a discussion point. And that has to do with the carbon
6 intensity pathway for digesters from beginning to end that
7 was raised by a couple of our presenters today.

8 And I think that's an important issue, because it
9 has substantive co-benefits in some of our other efforts,
10 specifically methane reduction. So I'd like to see that
11 pursued.

12 Thank you.

13 ISD TRANSPORTATION FUELS BRANCH CHIEF WADE:

14 Understood. Can I just respond just quickly?

15 CHAIR NICHOLS: Yes.

16 ISD TRANSPORTATION FUELS BRANCH CHIEF WADE: We
17 do think that it's possible that we could develop a lower
18 temporary CI for the dairy pathways as they apply. I
19 think one of the stakeholders represented the total time
20 it takes to process a pathway is up to two years. We do
21 not believe that that's an accurate estimate. We believe
22 the time period is much shorter than that. And so you
23 won't be using these temporary values for very long. But
24 that said, we take it as a real issue and something we
25 should work with stakeholders on in the 15-day period.

1 CHAIR NICHOLS: Okay. Any others. Did you have
2 comments?

3 BOARD MEMBER SHERRIFFS: Yes.

4 CHAIR NICHOLS: Go ahead.

5 BOARD MEMBER SHERRIFFS: I want to thank my other
6 Board members for making these good points for me that
7 they've made.

8 This is just a question that I have, as I -- we
9 have these different transportation fuels: electricity,
10 natural gas, gas, diesel. Is there any discussion about
11 the providers of these services why isn't it all available
12 in one place? And I'm thinking on the one, well, maybe
13 that's not our business. But on the other, the more
14 convenient it is for the consumer, the more they are
15 likely to adopt these. I mean, we've got households that
16 might have three different vehicles using three different
17 fuels sources.

18 And, you know, which car shall I take, and where
19 am I going to fuel it? No, no. It ought to be one
20 answer. What barriers have you encountered or what are --
21 what's out there that might make this more attractive?

22 ISD TRANSPORTATION FUELS BRANCH CHIEF WADE: So
23 what I've heard from operators of alternate fuel stations,
24 hydrogen stations, and EV chargers that are co-located
25 with gas stations - there aren't that many of those, but

1 the - is that, you know, they're very -- they're most
2 interested in the foot traffic through the convenience
3 store. And, you know, just making the money off of the
4 sales of sodas and chips and other things. And so they're
5 happy as long as the consumer is coming to their station,
6 and spending some time at their station and perusing other
7 items.

8 So I agree with you that it would be nice if, you
9 know, the places that the customer goes to fuel, you know
10 they have choice at those stations. And I would include,
11 you know, higher blends of biofuels as well, you know, as
12 an opportunity for having all that available in one
13 location.

14 BOARD MEMBER SHERRIFFS: What's keeping it from
15 happening at this point?

16 ISD TRANSPORTATION FUELS BRANCH CHIEF WADE:

17 Maybe, you know, complexity of setting up, you
18 know, both a hydrogen pump, an EV charging station, and,
19 you know, gasoline dispensing all in one location.

20 BOARD MEMBER SHERRIFFS: What can we do to help?

21 ISD TRANSPORTATION FUELS BRANCH CHIEF WADE: Not
22 totally sure beyond these capacity credit ideas and other
23 things that have been brought forward. I do think that
24 that makes the economics of the stations better, and
25 therefore, you know, more people will be interested in

1 setting them up.

2 CHAIR NICHOLS: Okay. Any additional comments?

3 BOARD MEMBER SPERLING: You know, just in terms
4 of little items, you know, just for completion --

5 CHAIR NICHOLS: Yes.

6 BOARD MEMBER SPERLING: I think there were --
7 there were only two others. I don't think they were
8 addressed by the staff. One was the credits for
9 non-residential users, that issue, and then the issue
10 about buffer accounts and true-ups, just so -- just for
11 the sake of completion. I think those were the last
12 issues I heard.

13 ISD TRANSPORTATION FUELS BRANCH CHIEF WADE: I
14 thought I was going to get away without discussing buffer
15 accounts, but I'll --

16 (Laughter.)

17 ISD TRANSPORTATION FUELS BRANCH CHIEF WADE: I'll
18 give it a shot.

19 BOARD MEMBER SPERLING: It sounds...

20 ISD TRANSPORTATION FUELS BRANCH CHIEF WADE: The
21 way the system works today is that every applicant has a
22 pathway that they're certified to. And we ask that that
23 be a conservative value for the carbon intensity of the
24 fuel that they provide. And they're -- they receive their
25 credits based on that pathway score. We believe that

1 their actual carbon intensities are slightly better than
2 that score. And they, you know, maybe have some head room
3 or a buffer, a space, and that currently that's not being
4 counted in the system.

5 And so staff's proposal was to once we have
6 third-party verification, and we have reporting of actual
7 CIs on an annual basis, to take that Delta and put it into
8 a shared account that ARB would control, and use only in
9 the case that credits needed to be invalidated for some
10 reason.

11 And we think that, you know, actually adds to the
12 robustness of the system as a whole, and protects against
13 buying invalid credits unintentionally.

14 And so we -- that's why we came forward with the
15 concept. I think if you want to give all of the credit
16 that an entity might be entitled to, based on their actual
17 performance, you should probably wait to issue the credits
18 until after you've verified that performance. And so that
19 would be another option in the long run is to transition
20 to crediting based on actual performance after you've
21 verified that performance. Whereas, in the LCFS so far,
22 it's always been we issue the credits almost, you know,
23 basically the quarter after the fuel is sold. And, you
24 know, without any ongoing check of CI performance up until
25 the point.

1 VICE CHAIR BERG: I think I'd like to see staff
2 take a look at some -- one of the testifiers suggested
3 maybe a split of that buffer. It does seem inherently not
4 right that we're taking away credits that somebody else
5 worked for. We certainly don't give them any buffer when
6 they're out of compliance, and so maybe you could take a
7 look at that. Either way, I do agree with the buffer
8 account, because it does benefit the whole, if there are
9 some unrecoverable credits.

10 But maybe if you could take a look at that, I'd
11 appreciate that.

12 ISD TRANSPORTATION FUELS BRANCH CHIEF WADE: Yes,
13 we certainly would be happy to continue to work with
14 stakeholders on it. Another option they do have is to
15 come in and certify themselves at a lower CI score as
16 well, just so it -- you know, if the Delta is ever very
17 large, they do have the chance to come in and get their
18 updated score.

19 I'm sorry, was there on other issue?

20 CHAIR NICHOLS: I go back to the continued
21 complexity of the program, and the need to come up with --
22 you know, perfection also entails a lot of additional
23 provisions, so think about the trees too.

24 Okay. Yes, Mrs. Mitchell.

25 BOARD MEMBER MITCHELL: Madam Chair, thank you.

1 There's one more item that came up in my meetings with
2 people before the meeting today. And it involved the
3 issue of who gets to claim the credits for EV charging,
4 say ChargePoint or other EV stations. Is there -- and
5 what I heard was that anybody off the street could go in
6 and claim those credits. I see Dan Sperling laughing,
7 so -- and it wasn't -- there wasn't any rule on who could
8 actually get those credits. So any guy off the street
9 could say, okay, ChargePoint didn't get the credits,
10 whoever owned that station didn't get the credits, so I'm
11 going to get the credits and then sell them out there to
12 people. Is this a problem? I mean, or am I -- did I
13 mishear this?

14 ISD TRANSPORTATION FUELS BRANCH CHIEF WADE: I
15 don't believe that's an accurate representation of staff's
16 proposal, because we say you can make a claim to the
17 credits if you have the proper data, right? And so an
18 average person off the street wouldn't know the kilowatt
19 hours dispensed through the station. You know, they would
20 not have that detailed metered information available from
21 this publicly-available station.

22 So what we're trying to avoid is assigning one
23 entity to receive the credit that then is not paying
24 attention to the program, and therefore those credits are
25 stranded. And we have seen examples of that. In fact, we

1 have -- we do not have all of the publicly-available
2 charging in the state registered in the program today.

3 And so we thought by offering a little bit more
4 flexibility about who makes the claim, we would be able to
5 get more of the actual, you know, charging that's
6 occurring recognized in the program.

7 So again, it's -- you have to have the actual
8 information about how much was dispensed through the meter
9 of the station. And if you're not involved in the
10 stations, you know, probably their project development or
11 operation, I don't see how you have that data.

12 BOARD MEMBER MITCHELL: That's reassuring. Thank
13 you.

14 CHAIR NICHOLS: Yes, Mr. De La Torre.

15 BOARD MEMBER DE LA TORRE: On this point, and I'm
16 supportive of everything that we've been talking about. I
17 don't want to pile on.

18 But on this point, shouldn't there be some kind
19 of chain of ownership where, you know, someone, whatever
20 the logical first person is or entity, and they waive
21 their rights to it, to the second, to the third, and so
22 on, and that way -- it's not going to be someone off the
23 street, but it might be someone who's third in the chain,
24 usurping the first or second on the chain. I could see
25 that happening. And maybe we do some mechanism to clarify

1 who's first, second, third, et cetera. And they need
2 waivers from the other parties if they're going to jump
3 forward.

4 ISD TRANSPORTATION FUELS BRANCH CHIEF WADE: We'd
5 be happy to discuss the hierarchy with stakeholders and
6 see what we can come up. I think the challenge is that
7 everyone would like to be first, right?

8 (Laughter.)

9 CHAIR NICHOLS: All right. The long --

10 BOARD MEMBER DE LA TORRE: You can't all --
11 having three kids, you can't always be first.

12 (Laughter.)

13 CHAIR NICHOLS: The longer this goes, the more
14 questions are going to be raised.

15 (Laughter.)

16 CHAIR NICHOLS: So I think it's time to call a
17 halt and ask for a resolution to be brought forward.

18 VICE CHAIR BERG: So with that, Madam Chair, I
19 will move Resolution 18-7 for approval.

20 BOARD MEMBER GIOIA: With the modifications we
21 all -- incorporating all the comments that we made here.

22 VICE CHAIR BERG: Incorporating all the comments
23 and the 15-day changes that have been made by the Board.

24 BOARD MEMBER GIOIA: Second.

25 CHAIR NICHOLS: All right. All those in favor,

1 please say aye?

2 (Unanimous ayes vote.)

3 CHAIR NICHOLS: Any opposed?

4 Any abstentions?

5 Great.

6 We have another resolution also, 18-22, the
7 voluntary NOx reduction measure is a separate resolution,
8 I believe. And although there wasn't much discussion
9 about it, I believe everyone ought to be in support of it.

10 VICE CHAIR BERG: Madam Chair, I'll move
11 Resolution 18-22 for approval.

12 BOARD MEMBER DE LA TORRE: Second.

13 CHAIR NICHOLS: All right. Seconded.

14 All in favor say aye?

15 (Unanimous aye vote.)

16 CHAIR NICHOLS: Opposed?

17 It's carried.

18 Thank you all very much. Good work.

19 We all appreciate the efforts that has gone into
20 this.

21 We do have one public comment for the open public
22 comment period before we will stand adjourned.

23 So this is the moment to come forward if you
24 signed up for a public comment.

25 It was Wayne, I believe, Michaud.

1 And there he is. Okay. Good.

2 Okay.

3 MR. MICHAUD: Hi. Well, thank you for having me
4 comment. I am Wayne Michaud, Executive Director of
5 Idle-Free California, a Sacramento County based
6 organization that raises awareness of vehicle idling, the
7 impact of it in California, especially idling when parked,
8 which we consider harmful, wasteful, and a largely
9 unnecessary practice.

10 Today, I have submitted a proposal to regulate
11 the idling of vehicles less than 10,000 pounds at schools.
12 This would be -- include passenger cars, pick-up trucks,
13 SUVs, vans, and so forth. And we have seen firsthand with
14 the idle-free school campaigns that we have done in
15 Sacramento County and a pilot project anyway that a lot of
16 idling does occur at schools.

17 So -- and there is a few compelling reasons why
18 we should worry about the idling of even light-duty
19 vehicles at schools. And one of them comes from the EPA
20 Region 8, which has an idle-free schools toolkit. They're
21 kind of a specialist with this issue.

22 So the EPA Region 8 states that idling vehicles
23 contribute to air pollution and emit air toxins, which are
24 pollutants known or suspected to cause cancer or other
25 serious health effects. Monitoring its schools has shown

1 elevated levels of benzene, formaldehyde, acetaldehyde and
2 other air toxins during the afternoon hour coinciding with
3 parents picking up their children.

4 Children's lungs are still developing, and when
5 they are exposed to elevated levels of these pollutants,
6 children have an increased risk of developing asthma,
7 respiratory ill -- problems, and other adverse health
8 effects. Limiting a vehicle's idling time can
9 dramatically reduce these pollutants and children's
10 exposure to them.

11 A couple of other compelling reasons to consider
12 something like this is that the California legislature in
13 2016 enacted a Assembly concurrent resolution about
14 vehicular idling that specifically addresses the idling
15 issue at schools, that encourages motorists not to idle
16 their vehicles where children congregate. Unfortunately,
17 this is a resolution, so it's not enforceable.

18 And -- you know, and we're hoping that a
19 regulation might have some kind of enforcement level,
20 because we maybe have the Department of Education behind
21 it, you know, as opposed to an at-large, bigger statewide
22 idling regulation for lighter duty vehicles.

23 And just the last thing I'll add is that there is
24 a lot of greenhouse gas emissions that occur, you know, at
25 more than 10,000 plus schools in the state.

1 So that's it. Thank you.

2 CHAIR NICHOLS: Thank you.

3 There's -- idling is a problem that we've dealt
4 with in trucks, but never with school buses as far as I
5 know.

6 DEPUTY EXECUTIVE OFFICER CHANG: School buses.
7 Too.

8 CHAIR NICHOLS: And certainly I've seen the issue
9 myself. I'm aware that it's a problem. I don't know if
10 ARB has ever looked into this in the past. Obviously, as
11 you are pointing out, enforcement, how you actually would
12 do the enforcement is the question.

13 But I'd like to see the staff at least look at
14 what has been done and what might be some possible ways to
15 address the problem. Thank you for bringing it forward.

16 MR. MICHAUD: Thank you very much. I appreciate
17 it.

18 CHAIR NICHOLS: Okay. We'll try to get a letter
19 to you at least with a response.

20 MR. MICHAUD: Thank yo.

21 CHAIR NICHOLS: All right. Any other issues
22 before the Board?

23 If not, seeing -- yes. Oh, I have to report on
24 the closed session. I saw -- when I see Ellen Peter
25 looking at me keenly, I know there's something I've

1 forgotten, and that's what it was.

2 We did have an executive session over our lunch.
3 We came right back and began the hearing again. And we
4 did receive a report from our attorneys and from the
5 Attorney General's office on pending litigation, but no
6 action was taken. Thank you.

7 Can we now adjourn?

8 CHIEF COUNSEL PETER: Yes.

9 CHAIR NICHOLS: Thank you.

10 All right. We will stand adjourned.

11 Thank you.

12 (Thereupon the Air Resources Board meeting
13 adjourned at 4:08 p.m.)

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C E R T I F I C A T E O F R E P O R T E R

I, JAMES F. PETERS, a Certified Shorthand Reporter of the State of California, do hereby certify:

That I am a disinterested person herein; that the foregoing California Air Resources Board meeting was reported in shorthand by me, James F. Peters, a Certified Shorthand Reporter of the State of California, and was thereafter transcribed, under my direction, by computer-assisted transcription;

I further certify that I am not of counsel or attorney for any of the parties to said meeting nor in any way interested in the outcome of said meeting.

IN WITNESS WHEREOF, I have hereunto set my hand this 11th day of May, 2018.



JAMES F. PETERS, CSR
Certified Shorthand Reporter
License No. 10063