MEETING

STATE OF CALIFORNIA

AIR RESOURCES BOARD

ZOOM PLATFORM

CALIFORNIA ENVIRONMENTAL PROTECTION AGENCY

BYRON SHER AUDITORIUM

1001 I STREET

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THURSDAY, MAY 22, 2025

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JAMES F. PETERS, CSR
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APPEARANCES

BOARD MEMBERS:

Liane Randolph, Chair

John Balmes, MD

Hector De La Torre

John Eisenhut(Remote)

Dean Florez(Remote)

Todd Gloria(Remote)

Eric Guerra

Lynda Hopkins

Assemblymember Corey Jackson

Patricia Lock Dawson

Dawn Ortiz-Legg(Remote)

Tania Pacheco-Werner, PhD(Remote)

Susan Shaheen, PhD

Diane Takvorian

STAFF:

Steve Cliff, PhD, Executive Officer

Courtney Smith, Principal Deputy Executive Officer

Shannon Dilley, Chief Counsel

Edie Chang, Deputy Executive Officer, Planning, Freight & Toxics

Chanell Fletcher, Deputy Executive Officer, Environmental Justice(Remote)

APPEARANCES CONTINUED

STAFF:

Christopher Grundler, Deputy Executive Officer, Mobile Sources and Incentives

Edna Murphy, Deputy Executive Officer, Internal Operations

Femi Olaluwoye, Deputy Executive Officer, Southern California Headquarters and Mobile Source Compliance

Rajinder Sahota, Deputy Executive Officer, Climate Change and Research

Jeremy Avise, Chief, Modeling and Meteorology Branch, Air Quality Planning and Science Divisioin(AQPSD)

Michael Benjamin, Division Chief, AQPSD

Matthew Botill, Division Chief, Industrial Strategies Division(ISD)

Chelsea Carey, PhD, Air Pollution Specialist, Emissions Data Quality Assurance Section and the Nature Based Strategies Section, ISD

Sue Chen, PhD, Air Pollution Specialist, Regulatory and Risk Modeling Section, AQPSD

Pingkuan Di, Manager, Regulatory and Risk Modeling Section, AQPSD

Linda Echegaray, Senior Attorney, Legal Office

Vernon Hughes, Assistant Division Chief, AQPSD

Natalie Lee, Assistant Division Chief, ISD

Adam Moreno, Manager, Nature-Based Strategies Section, ISD

Brock Williams, Attorney Legal Office

APPEARANCES CONTINUED

ALSO PRESENT:

Vitaliy Arnaut, Lumin Auto Group

Thomas Becker

Kimberly Burr, Forest Unlimited

Evan Edgar, California Compost Coalition, Edgar and Associates

Richard Falcon, United Latinos

Richard Filgas, California Farm Bureau

Amanda Hansen, Deputy Secretary, California Natural Resources Agency

Virginia Jameson, Deputy Secretary, California Department of Food and Agriculture

Brian Kolodji, Kolodji Corporation

Kathy Saechou, Valley Vision

Afrack Vargas, Lumin Auto Group

Pascale Warren, Sacramento Metropolitan Air Quality Management District

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PROCEEDINGS

CHAIR RANDOLPH: Okay. Good morning. Sorry for the late start. The May 22nd, 2025 public meeting of the California Air Resources Board will come to order.

Board clerk, will you please call the roll.

BOARD CLERK LEVRINI: Dr. Balmes.

BOARD MEMBER BALMES: Here.

BOARD CLERK LEVRINI: Mr. De La Torre.

BOARD MEMBER DE LA TORRE: Here.

BOARD CLERK LEVRINI: Mr. Eisenhut.

BOARD MEMBER EISENHUT: Here.

BOARD CLERK LEVRINI: Senator Florez.

BOARD MEMBER FLOREZ: Florez here.

BOARD CLERK LEVRINI: Mayor Gloria.

BOARD MEMBER GLORIA: Here.

BOARD CLERK LEVRINI: Mr. Guerra

BOARD MEMBER GUERRA: Here.

BOARD CLERK LEVRINI: Mr. Hopkins.

BOARD MEMBER HOPKINS: Here.

BOARD CLERK LEVRINI: Senator Jackson.

BOARD MEMBER JACKSON: Here.

BOARD CLERK LEVRINI: Mayor Lock Dawson.

BOARD MEMBER LOCK DAWSON: Here.

BOARD CLERK LEVRINI: Ms. Ortiz-Legg.

BOARD MEMBER ORTIZ-LEGG: Here.

BOARD CLERK LEVRINI: Dr. Pacheco-Werner.
BOARD MEMBER PACHECO-WERNER: Here.
BOARD CLERK LEVRINI: Dr. Shaheen.
BOARD MEMBER SHAHEEN: Here.
BOARD CLERK LEVRINI: Ms. Takvorian.
BOARD MEMBER TAKVORIAN: Here.
BOARD CLERK LEVRINI: Chair Randolph.
CHAIR RANDOLPH: Here.
BOARD CLERK LEVRINI: Madam Chair, we have a quorum.
CHAIR RANDOLPH: All right. Thank you. We will start with the housekeeping items before we get started.
We are conducting today's meeting in person as well as offering remote options for public participation both by phone and in Zoom. Anyone who wishes to testify in person should fill out a request-to-speak card available in the foyer outside the Board room. Please turn it into a Board prior to the commencement of the item. If you are participating remotely, you will raise your hand in Zoom or dial star nine if calling in by phone. The Clerk will provide further details regarding how public participation will work in a moment.
For safety reasons, please note the emergency exit to the rear of the room through the foyer. In the event of a fire alarm, we are required to evacuate this

room immediately and go down the stairs to the lobby and out of the building. When the "All Clear" signal is given, we will return to the auditorium and resume.

A closed captioning feature is available for those of us -- for those of you joining us in the Zoom environment. In order to turn on subtitles, please look for a button labeled "CC" at the bottom of the Zoom window as shown on the screen now. I would like to take this opportunity to remind everyone to speak clearly and from a quiet location, whether you are joining us in Zoom or calling in by phone.

Interpretation services will be provided today in Spanish for both in-person and Zoom attendees. If you are joining us using Zoom, there is a button labeled "Interpretation" on the Zoom screen. Click on that interpretation button and select Spanish to hear the meeting in Spanish. If you are joining us here in person and would like to listen to the meeting in Spanish, please speak to a Board assistant and they will provide you with further instructions. I want to remind all of our commenters to speak slowly and pause intermittently to allow the interpreters the opportunity to accurately interpret your comments.

THE INTERPRETER: Thank you, Chair Randolph. And as customary, we'll provide the same language access

instructions for the benefit of our Spanish listening audience.

(Interpreter translated in Spanish).

THE INTERPRETER: Thank you so much, Chair Randolph. Back to you.

CHAIR RANDOLPH: Thank you. I will now ask the Board clerk to provide more details regarding public participation.

BOARD CLERK LEVRINI: Thank you, Chair Randolph. Good morning, everyone. I will be providing additional information on public participation for today's meeting.

We will first call in-person commenters who have turned in a request-to-speak card and then call on commenters who are joining us remotely. If you are joining us remotely and wish to make a verbal comment on one of today's Board items or during the open comment period at the end of today's meeting, you must be using Zoom webinar or calling in by phone. If you are watching the webcast, but wish to comment remotely, please register for the Zoom webinar or call in. Information for both can be found on the public agenda for today's meeting.

To make a verbal comment, we will be using the "Raise Hand" feature in Zoom. If you wish to speak on a Board item, please virtually raise your hand as soon as the item has begun to let us know you wish to speak. If

you are using a computer or tablet, there is a raise hand button. And if you are calling in on the phone, dial star nine to raise your hand. If you previously indicated which item you wished to speak when you registered, you must raise your hand at the beginning of the item to be added to the queue. When the comment period begins, the order of commenters is determined by who raises their hand first. We will call each commenter by name and will activate each commenter's audio when it is their turn to speak. For those calling in, we will identify you by the last three digits of your phone number. We will announce the next three or so commenters in the queue so you are ready to testify when we come to you. Please note, your testimony will not appear by video. For all commenters, please state your name for the record before you speak. This is especially important for those calling in by phone.

Each commenter will have a time limit of two minutes. Although, this may change at the Chair's discretion. During public testimony, you will see a timer on the screen. For those calling in by phone, we will let you know when you have 30 seconds left and when your time is us.

For anyone giving verbal comments today in Spanish, please indicate so at the beginning of your

testimony and our interpreter will assist you. During your comment, please follow any instructions the interpreter provides. Please note your time will be doubled if you require Spanish interpretation.

Finally, to submit written comments, please visit CARB's "Send Us Your Comments" -- please visit CARB's "Send Us Your Comments" page or look at the public agenda on our webpage for links to submit your comment. Written comments will be accepted on each item until the Chair closes the record for that item.

Thank you. I'll now turn the microphone back to Chair Randolph.

CHAIR RANDOLPH: All right. Thank you. Before we get to today's agenda items, I would like to introduce the newest member of the California Air Resources Board, Mayor Patricia Lock Dawson of Riverside, who was appointed by Governor Newsom some in April.

Previously, Mayor Lock Dawson held -- yeah, let's --

(Applause).

CHAIR RANDOLPH: We're very excited to have you, particularly because our Southern California Headquarters are in the City of Riverside.

Previously, Mayor Lock Dawson held several key positions within the U.S. Department of Interior serving

as an ecologist, ecosystem planner, and wildlife biologist. She also founded and led PLD Consulting Government Affairs from 2001 to 2020, where she specialized in public policy and environmental planning.

Mayor Lock Dawson currently chairs California's Big City Mayors Coalition and the Legislative Communications and Membership Committee of the Southern California Association of Governments, and services on the Boards of local governments for sustainability, the Riverside County Regional Conservation Authority, and the South Coast Air Quality Management District. Welcome, Mayor Lock Dawson who is a very busy person. So we are so happy that you're here with us doing this work together.

BOARD MEMBER LOCK DAWSON: Thank you, Chair Randolph. And I'm really happy to be here, really pleased to be here and I've had a warm welcome so far.

So thank you.

CHAIR RANDOLPH: And another warm welcome to our newest Deputy Executive Officer, Christopher Grundler. He is a -- spent many, many decades at the U.S. EPA working on mobile source regulation and we are so excited that we now have his incredible expertise here at CARB, as we will need to be very creative in meeting our air quality and climate goals. So welcome. We're really happy to have you.

Okay. The first item on the agenda is Item number 25-3-1, an informational update on the California Air Toxics Assessment. If you are here with us in the room and wish to comment on this item, please fill out a request-to-speak card as soon as possible and submit it to Board assistant. If you are joining us remotely and wish to comment on this item, please click the "Raise Hand" button or dial star nine now. We will first call on in-person commenters, followed by any remote commenters, when we get to the public comment portion of this item.

During this item, the Board will hear about the California Air Toxics Assessment. Ongoing effort by CARB staff to estimate people's exposure to air toxics in California. The products of this work inform the public of the health risks associated with the long-term exposure to major air toxics over time. They also provide policymakers at State, local, and community levels with insights into the health benefits of past and current regulations, while offering guidance for future emissions control measures. This work shows that our programs are succeeding in reducing air pollution and associated health risks and highlights how strong science is foundational to developing sound public policy.

This is particularly important, given the challenges we currently face at the federal level with

many health and environmental programs facing cuts that will hamper long-term efforts to protect human health and the environment.

Dr. Cliff, would you please introduce the item.

EXECUTIVE OFFICER CLIFF: Thank you, Chair Randolph.

The California Air Toxics Assessment, or CATA, started in 2017 in support of Assembly Bill 617 as a tool to inform communities and stakeholders of the health risks associated with air toxics across California.

Iterative air quality modeling, CATA estimates and tracks ambient concentrations and health risks of air toxics at neighborhood scales over time. Its trend analysis tracks risk reductions associated with past and current regulations, and provides insights into the potential benefits of future toxic control measures. CATA's high spatial resolution enables community-level analysis, such as identifying areas of disproportionately burdened by -- areas disproportionately burdened by air toxics exposure, determining the major air toxic species impacting the public and pinpointing key emission sources contributing to overall health risks. The near statewide coverage of CATA also complements the existing toxics air monitoring network helping fill the gaps between monitoring locations.

Today, you will also hear about the progress of CATA, now in it's third iteration, along with ongoing developments towards improving our understanding of toxic emissions and sources that will be included in future updates to CATA.

I will now ask Dr. Sue Chen of the Air Quality Planning and Science Division to begin the staff presentation.

Dr. Chen.

(Slide presentation).

AQPSD STAFF AIR POLLUTION SPECIALIST CHEN: Thank you, Dr. Cliff. Good morning, Chair Randolph and Board members. My name is Sue Chen. I will be presenting an informational update on the California Air Toxics Assessment, or CATA.

CARB has a long history of addressing air toxics issues, and I hope that after today's presentation, you will see CATA as a useful tool for Californians to better understand our exposure to air toxics and to demonstrate why CARB's regulatory efforts are so critical to reducing air toxics emissions and exposure.

[SLIDE CHANGE]

AQPSD STAFF AIR POLLUTION SPECIALIST CHEN:

Today's presentation is structured as follows:

I will start with a brief introduction on what

CATA is and why we started this work. Then I will detail four major ways that CATA can be used by the public and to support CARB' efforts.

First, how it can be used to inform the public of the exposure and health risks associated with air toxics in California. Second, how CATA can be used to track trends in risk from different emission sectors over time, and from those trends, provide insights into future toxics emissions and exposure reduction measures and regulations. Third, how it can be used to support community-based efforts, such as the development of Community Emission Reductions Plans, or CERPs. Fourth, how it can be used to supplement the monitoring network by filling gaps between monitor locations. Finally, I will end by talking about our progress so far and future developments to CATA.

[SLIDE CHANGE]

AQPSD STAFF AIR POLLUTION SPECIALIST CHEN: The California Air Toxics Assessment, abbreviated as CATA, is a computer model-based assessment of the cumulative cancer risks associated with long-term exposure to air toxics in California. For any region of interest, whether it's an entire air basin or down to a single census tract, CATA can tell you which air toxic was prominent in that region and which were the emission sources that caused the highest cancer risks. CATA is a multi-year effort, where

we conduct an updated assessment every three to five years. The reason why each update can take up to five years to complete is because the work is extremely resource intensive, in terms of both high demands for computational resources, as well as highly skilled staff to conduct and interpret the analysis.

Before the model assessment can begin, it takes about two years to build emissions inventory and prepare the meteorological data. Once those are ready, it takes another two years to conduct air quality modeling. Then it takes another year or more to analyze the results, publish those results in scientific journals, summarize the key information and relay that information to the public. This process is done on CARB's high performance computing cluster, or HPC, and requires the equivalent to the processing power of more than 10,000 laptops running simultaneously for a year, while utilizing the storage equivalent of more than 2,000 standard CARB laptops.

Due to the immense demand for resources, we divide the state into six smaller regions outlined on the map to the right, where each region is centered over a major air basin. This means that CATA is a quasi-statewide assessment covering most of the state's population and emission sources. We hope that computational advancements and expansion of CARB's HPC

will allow future iterations of CATA to provide hundred percent coverage of the state's population.

Even though, it is resource intensive, this iterative process over time provides critical information to communities and internal and external stakeholders on the trends in exposure to air toxics. For example, CATA results show that significant benefits were achieved from past and current on-road diesel regulations at reducing diesel particulate matter emissions, and can point to potential new areas of focus as on-road diesel emissions continue to decline.

Each CATA update reflects the current best estimates of air toxics emissions, for example, diesel particular matter, or DPM, toxic volatile organic compounds or VOCs, such as formaldehyde, and heavy metals, like hexavalent chromium. It is important to note that there are inherent uncertainties associated with emission inventories and numerical models. So what you see today represents our best estimate of exposure down to the neighborhood scale, but an individual's actual exposure will be different.

As new advancements made in our understanding of the emissions and the physical and chemical processes that affect air toxics in the atmosphere, modeled exposure and risk will be updated.

[SLIDE CHANGE]

AQPSD STAFF AIR POLLUTION SPECIALIST CHEN: CATA stems from a series of efforts at controlling air toxics in California. California's Air Toxics Program started in 1983 with Assembly Bill 1807, which mandates CARB to identify and control air toxics. In 1987, Assembly Bill 2588 passed, requiring stationary sources, such as commercial facilities, to identify, report, and reduce air toxics emissions. More recently, in 2017, Assembly Bill 617 was passed, which requires CARB to identify and reduce exposure in communities that experience high cumulative exposure to air pollution and to evaluate emission control measures that will lead to reduced exposure.

The CATA work started in 2017 with the purpose of providing support to AB 617 and other toxics programs. Some of you may be familiar with the MATES studies, which started in 1986. MATES focuses on the South Coast region, whereas CATA provides information at the statewide level, these are complementary to each other.

[SLIDE CHANGE]

AQPSD STAFF AIR POLLUTION SPECIALIST CHEN: Now, how does CATA work? CATA starts with using three-dimensional emissions data, either estimated by CARB staff or reported to CARB, that represents our best estimate of actual emissions occurring during a calendar

year.

Emission sources can be categorized into groups of sectors, such as on-road mobile sources, like trucks and cars, off-road mobile sources, like locomotives, ocean-going vessels, or OGVs, and aircraft, area sources, such as agricultural activities, construction, different types of burns and fires, which includes wildfires as well as transported pollutants from Mexico, and stationary points sources, including commercial and industrial facilities.

All those add up to more than 10 million sources statewide that CATA models to estimate exposure and risk to the public, and the number is growing with each CATA update as we receive more information on sources and emissions. For diesel PM and heavy metals, we're keeping track of more than 30 categories of emission sources independently, so that we can do detailed analysis of which sources are contributing most to health risk. For example, how much of the total risk comes from on-roade mobile sources versus how much comes from locomotives.

By keeping track of source contributions over time, we can also quantify sector-specific health risk changes for each toxic species, and relate those to major regulations in effect during that period.

[SLIDE CHANGE]

AQPSD STAFF AIR POLLUTION SPECIALIST CHEN: CATA takes that comprehensive and detailed emissions inventory and allocates emissions to each hour of the day and then utilizes meteorological and air quality models to predict the transport and dispersion of those emissions to better estimate ambient concentrations and exposure to air toxics. It is necessary to go beyond just information on emissions and to utilize air quality models when we want to estimate the health impact of air toxics, because what is being emitted doesn't necessarily translate to what we breathe.

Surface wind can blow pollutants toward or away from populations. The sun and other chemicals in the air can participate in chemistry that form or destroy pollutants. Those are some of the processes that air quality models take into account to estimate ambient concentrations or how much pollutant is in the air at a certain time and place.

This animation shows the propagation of a plume from a single fire, as an example of what happens in the model. Now, imagine the 10 million sources we described earlier all being transported together simultaneously, that is what CATA captures within its model framework. Adding people into the picture, CATA uses population data and factors that impact exposure, such as absorption, the

amount of time people spend outdoors, and their sensitivity to toxics depending on their age, to estimate the overall exposure and cancer risks at each census block and tract statewide.

Whenever available, the CATA modeling is compared against toxics measurements at monitors throughout the state and within communities to validate the results.

[SLIDE CHANGE]

AQPSD STAFF AIR POLLUTION SPECIALIST CHEN: Now, that we have exposure and risk estimates, what can we do with this information? As mentioned earlier, the results from CATA can be useful in four different ways. First, it provides a near statewide estimate of ambient concentrations, exposure, and cancer risk of air toxics in California at the census block and tract levels, as shown on the maps on the left for different air toxics for the year 2017. The statewide assessment provides public information about the major air toxics, included in CARB's emissions inventory and associated health risk throughout the state of over time, which supports the goals of AB 1807. It also bridges the gap between national studies, such as U.S. EPA's National Air Toxics assessment, or AirToxScreen, and regional air toxics studies, like MATES in the South Coast.

CATA also complements the CalEnviroScreen tool

developed by OEHHA by adding potential public health risk from air toxics as an additional factor into their scoring system.

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AQPSD STAFF AIR POLLUTION SPECIALIST CHEN:

Second, CATA tracks trends over time that can provide insights into the present and future exposure to air toxics. On the left, the bars represent results from the first two CATA iterations and projections to future assessments and years, while showing an example of source attribution of the overall cancer risks.

The relative proportions of DPM on-road sources are shown in green, the rest of the diesel PM sources in yellow, heavy metals in purple, and VOCs in blue. The 2012 and 2017 data are estimated by detailed CATA modeling. We are in the process of completing the 2021 iteration. The results shown here for 2021 and 2037 are initial estimates based on the 2017 modeling results, and projected emission trends, and will be confirmed with future CATA updates.

We can see a clear trend in risk reduction over time, pointing to the success of past CARB regulations and providing insights on where to focus on in the future. We also see a clear reduction in the contribution of diesel on-road sources compared to other sources in air toxics

from 60 percent of total risk in 2012 down to 50 percent in 2017. And it is expected to continue to decrease in the years to come. In other words, on-road diesel PM sources have declined more than other diesel PM sectors, mainly thanks to past stringent on-road regulations.

Therefore, CATA can be used to evaluate the progress of sector-based regulations in reducing air toxics exposure and help assess the health benefits of those regulations. We would like to clarify here that even the results from CATA can be used to support regulatory efforts and evaluate health benefits, it is not intended to replace the health risk assessments used to estimate risk near sources, such as the Hot Spots Program.

CATA estimate risk at the census block and tract level, more like a neighborhood scale estimate, considering all emission sources in the vicinity. It does not provide risk at close proximity to sources, nor does it quantify risk for any individual person or household. Therefore, the true usefulness of CATA doesn't lie in providing an exact cancer risk for a particular person.

Rather, it informs the public and policymakers of the progress we're making in reducing exposure to air toxics through current regulations statewide or in the particular area, as well as where future efforts might be most effective in further reductions.

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AQPSD STAFF AIR POLLUTION SPECIALIST CHEN: For example, CATA results show that overall in California, cancer risk from all diesel PM sources have decreased by 42 percent from 2012 to 2017. When looking at individual source category contributions to cancer risk, we found that on-road diesel PM risk decreased by 49 percent. This reflects major health benefits from the Truck and Bus Rule. Similarly, we found that -- a 43 percent decrease in OGV-related cancer risk and the 31 percent decrease for the rest of off-road and area sources.

Those reflect the combined impact of many regulations, such as those targeting ocean-going vessels, commercial harbor craft, cargo handling equipment, and transport refrigeration units. In contrast, sources from outside of California within Mexico decrease by less than one percent. Those cross-border contributions continue to heavily impact near border communities. With each of update of CATA, the impact of new and existing regulations will be reflected.

[SLIDE CHANGE]

AQPSD STAFF AIR POLLUTION SPECIALIST CHEN: At the community level, the CATA assessments have helped communities identify the major air toxics and emission sources impacting their community, trends in how those

emissions and associated risk are changing over time, as well as assisting developing community emission reduction plans, or CERPs, and advancing environmental justice across the state.

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AQPSD STAFF AIR POLLUTION SPECIALIST CHEN: For example, we closely collaborated with the Portside community, their steering committee, and the San Diego Air District on how CATA could be used to assist with our CERP goals and supplement the air quality measurements in the community. CATA results that were shared include cancer risk maps that showed the spatial distribution of exposure to toxics such as the one on the left for diesel PM, where we can see high risks downwind of the port area and major highways like I-5.

We were also able to provide information on the contribution of each air toxic to total risk, like what we see in this pie cart to the right, as well as which emissions sectors are responsible for the majority of diesel PM risk in the community.

In 2017, diesel PM was still the dominant air toxic in terms of long-term health risk and in-state on-road sources were still the main source of diesel PM risks. However, a projection to 2037 based on our 2017 CATA modeling and estimated emissions trends show that

assuming current emission controls and regulatory authority, the major polluting sources will shift toward off-road sectors and transport from Mexico. Many of these analyses were prompted by discussions with the community and steering committee members, and the feedback we received led to the creation of a frequently asked question page on our public data portal that we will introduce later. These also illustrate the type of analysis and information we can get from CATA at any scale, whether it is for local community, an entire air district, or air basin, or across the entire state.

Under AB 617, many communities are receiving support to install additional monitoring. The early stage community monitoring network for Portside is shown here on this map. CATA con further complement those community-level monitoring efforts by providing source attribution of exposure and health risks, and by filling the gaps between monitors.

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AQPSD STAFF AIR POLLUTION SPECIALIST CHEN: CATA not only complements the mon -- the toxics monitoring network at the community but also at the statewide level. As mentioned earlier, monitoring measurements are used as the ground truth against which we validate our modeling results. However, monitoring over extensive periods of

time is expensive, which limits its coverage in space and time. Choosing where to place the monitors also presents a big challenge. As point measurements, monitors are bound to be mostly impacted by sources located upwind. For example, imagine the scenario, where a monitor is downwind of a factory but upwind of a highway. Measurements at that monitor site will be dominated by the emissions from the factory and provide a good estimate of the health impacts on nearby residents associated with emissions from the factory. However, the measurements are likely to underestimate the health impact from vehicle exhaust on the highway.

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AQPSD STAFF AIR POLLUTION SPECIALIST CHEN: The map on the left shows the current statewide toxics monitoring network, including some of the community and regional specific monitors in purple. We can see that even though certain urban areas have good coverage, there are large gaps across the state. CATA provides continuous coverage of concentrations, exposure, and risk across the state, so it can fill the gaps between monitor sites.

In addition, instruments measured total ambient levels of toxics without source attribution, whereas CATA keeps track of how much each emissions source contributes to the total.

[SLIDE CHANGE]

AQPSD STAFF AIR POLLUTION SPECIALIST CHEN: To date, we have completed two iterations of CATA representing 2012 and 2017 conditions. We have also released a comprehensive report on the major findings and a publicly available GIS data portal with interactive maps, where anyone can explore CATA's results. We are currently working on the third iteration for the year 2021, which is expected to be completed next year. As we move forward with future iterations, more regulations or emission control measures will come into play, such as incentives under AB 617. CATA will continue to keep track of the trends over time and the benefits from existing and new regulations.

[SLIDE CHANGE]

AQPSD STAFF AIR POLLUTION SPECIALIST CHEN: Our public data portal features interactive maps of total cancer risk for predefined regions, such as statewide air basins, counties, and local communities, including those identified under AB 617. Users can also Zoom into any area of interest, for example Bakersfield.

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AQPSD STAFF AIR POLLUTION SPECIALIST CHEN: The interactive charts that display the contributions from each air toxic and emissions source will refresh

automatically for that selected region. For example, we can see that for Bakersfield in 2017, most cancer risk came from diesel PM on-road sources and agricultural activities. However, from the trends seen earlier, we expect that to shift away from on-road in the future.

The portal also features a page that shows how much risk has changed over time from 2012 to 2017. To increase transparency, there is a compilation of frequently asked questions as well as an option to download the full report and analysis, and an email address to ask questions. Below is the link to the website, which is accessible to anyone to explore.

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AQPSD STAFF AIR POLLUTION SPECIALIST CHEN: Prior to releasing the 2017 CATA assessment, we conducted multiple public outreach events, such as briefings to air districts, CAPCOA, environmental groups, external agencies, community steering committees, and community members to better understand their needs and how CATA could be helpful to them, as well as to listen to and address any concerns or questions they may have had. We have also presented at multiple international conferences and received feedback from the research community.

Several journal articles are currently in preparation for publication. Comments were positive with

some questions on how to properly message major findings and address differences with other studies. The frequently asked questions on our public data portal document and address the major feedback we received from communities and stakeholders.

[SLIDE CHANGE]

AQPSD STAFF AIR POLLUTION SPECIALIST CHEN:

Summarizing our ongoing efforts with CATA and what is coming ahead, CATA has shown that the health impact associated with air toxics have reduced from 2012 to 2017, which reflects the successful implementation of past and current regulations and policies. For example, CATA estimates that, statewide, diesel PM cancer risks decreased by 43 percent and non-cancer health effects from diesel PM exposure decreased by 50 percent from 2012 to 2017. However, those reductions are not uniform in space and disparities continue to persist across the state.

For example, in 2017, disadvantaged communities identified under AB 617 and SB 535 were still overburdened by higher levels of air toxics compared to regional and statewide averages. From source attribution of cancer risk in 2012 and 2017, we saw a shift in risk contributions from the emission sectors and toxic species. While some of those same trends, such as the decrease of on-road sources are expected to continue in the future,

the sector-based trend analysis under CATA can help guide future toxics control measures and regulations by identifying which sectors and toxics to prioritize to achieve greater emission reductions and greater health and cost benefits.

Attention should also be placed on international transport that can heavily impact the communities living near the U.S.-Mexico border. As new advances are made in quantifying toxics and associated health risks from wildfires and emissions from urban structural burns within the wildland urban interface, we look forward to incorporating those new findings into CATA. Similarly, new developments in emissions inventories through reporting mechanisms, such as CTR and emerging air toxics, like PCBTF and ethylene oxide will be incorporated into CATA, as that information becomes available. CTR, short for criteria pollutant and toxics emissions reporting, was developed in 2017 in support of the mandates of AB 2588, AB 617, and AB 197.

In 2020, CTR was amended to expand the regulation's applicability requirements to increase the number and types of facilities subject to annual emissions data reporting. We see an example of that increase in reporting on this map of the southeast and South Los Angeles communities. As emissions inventories are

developed for enhanced reporting and emerging air toxics, they will be reflected in CATA.

This concludes our presentation. We now welcome any questions or comments.

BOARD MEMBER TAKVORIAN: Well, how about that. Okay. Thank you so much. Chair Randolph was called away on an urgent matter, so I will be sitting in for her. Thanks so much for a great presentation. We really appreciate it. It's such a great enhancement of community right to know and also provides the scientific basis for all of the affected rules that CARB currently has in place and hope that we can (inaudible).

Chair Randolph and I talked about perhaps Board members who may have questions could ask those first before public testimony and those are questions, not long comments, and then we can move to the public.

Member Hopkins.

BOARD MEMBER HOPKINS: Excellent presentation. Thank you for that. You know, I think that we're all acutely aware of what transpired at the U.S. Senate last night and it's hard not to bring that lens into the conversation today. It looks like we're actually able to disaggregate the data based on source. And it seems like that should allow us to attract -- to sort of track not only the overall impact of regulations, but also

potentially the impacts of specific regulations.

So I was just -- you know, I want to recognize that correlation is not causation, but is there an opportunity to prove causality around particular regulations. For instance, could we track the impact of the EPA waiver that we have received over time, recognizing that we have a relatively, you know, short duration compared to, you know, since the Clean Air Act was formed?

AQPSD CHIEF BENJAMIN: Thank you, Board Member Hopkins. This is Michael Benjamin, Chief of the Air Quality, Planning, and Science Division. The CATA modeling does, indeed, reflect the benefits of all of the regulations that have either been already implemented or that we, at the time that the modeling was done, that we expected those regulations to be implemented. If there are changes in which regulations or actually implemented going into the future, it is challenging to actually go back and tease out the specific impact of a given regulation without actually redoing the modeling.

We can come up with an estimate of what we think the impact would be, which would probably be fairly reasonable, but we wouldn't, I don't think, be able to determine with confidence what the impact might be on a given community from a specific regulation not being

implemented.

BOARD MEMBER HOPKINS: A follow up if I may, through the Chair? I just wanted to ask what is -- so, I am total data geek and I love this and know that we have some stakeholders who are also total data geeks. What is our kind of ability to tell the story beyond, you know, kind of the modeling? Like, how are we going to share this in potentially, you know, more of a story telling or a narrative way to members of the community, and do we have a communications plan associated with this?

AQPSD CHIEF BENJAMIN: That's a great question. We've been in active communication with a number of community members through the outreach efforts in the development of this version of CATA. We're also working very closely with our Office of Community Air Protection, as well as our Public Information Office to really think about what's the best way to disseminate, make available this tool, and let people know what the results are, and the benefits of CARB's regulations at the community scale.

As Dr. Chen mentioned, we already have a number of scientific publications and peer review that are going to be published. But in terms of what we need to do for the layperson, I think we need to think carefully about how do we translate this highly complex information into something that's understandable for people at the

neighborhood level, and that's something that we're currently working on.

BOARD MEMBER TAKVORIAN: Okay. Thank you very much.

So I'm going to call on Dr. Balmes, because he is probably going to have to step away for a little while, so if you wouldn't mind going for first, and then I'll call on the other Board members.

BOARD MEMBER BALMES: So first of all, I want to thank Dr. Chen for an excellent presentation. As I've said many times from this dais, I think that our control of air toxics is really the frontier that we need to be pursuing. You know, we've done a pretty good job with the criteria pollutants, so that means that the toxic contaminants that our communities breathe, those are more important for us to deal with. And so I really am pleased with the progress that's been made.

And I think that slide nine shows that progress, except for cross-border diesel emissions from Mexico is remarkable. And, you know, I hope that the projection for 2021 is as good as you folks hope.

And again, to Board Member Hopkins comments, hopefully we're going to be able to continue on a progress -- a path towards progress in reducing air toxics, especially in our most vulnerable communities.

You know, the -- especially -- I'm especially pleased about the public data portal, because we were kind of slow in getting that going, but now we have it. And I don't know if you have any way of tracking how often it's being used at this point. I hope it's -- Michael is smiling. I don't know if that means it's good or bad. If it's not being used as much as we would like, then it's up to us to inform the public that they have this tool that they can use, especially our AB 617 steering committees, but really the whole state's public, because that was, to me, a key part of what the Legislature wanted out of our Air Toxics Program. So I'm mostly very happy. You have to continue to make progress, but, you know, what you showed today is cross-border diesel emissions heartening.

The one question I have is given that some air toxics are pretty hard to measure, exactly how do you incorporate new air toxics or air toxics that are hard to measure into the...(inaudible).

AQPSD CHIEF BENJAMIN: This is Michael Benjamin again. As Dr. Chen mentioned, we're for -- we're working very closely with our Monitoring and Laboratory Division, our Research Division, and partners inside and outside of the agency, as well as the air districts to make sure that each iteration of CATA has the most accurate input information as possible. At the end of the day, these

modeling results are only as good as the data that go into them. And fortunately, there are a lot of developments in terms of the instrumentation and technology for real-time measurement of toxics. And as we deploy and collect information on these various toxics, we'll incorporate them into future iterations of CATA.

BOARD MEMBER BALMES: And those new monitoring instruments, do we do those on our own or do we partner with the air districts prior to that monitoring?

AQPSD CHIEF BENJAMIN: Well, we have a long history as an agency of partnership with many entities, not just the local air districts, but also other State agencies, federal partners, NOAA and NASA, and EPA. And other agencies have been incredibly important in terms of helping develop these new technologies and also deploying them. And so we've really appreciated those partnerships and we see them as an important -- really play an important role going forward.

BOARD MEMBER BALMES: Thank you, Michael. And because I'm not going to be able to make your retirement party unfortunately, I just want to say how much I've appreciated your service on the Board, and particularly your help to me on multiple occasions when I've reached out to you. And you're going to be missed by me and others, but I hope your good work will continue past your

retirement.

AQPSD CHIEF BENJAMIN: Thank you, Dr. Balmes.

BOARD MEMBER TAKVORIAN: Thank you, Dr. Balmes. Thank you for that information.

Dr. Shaheen.

BOARD MEMBER SHAHEEN: Thank you. So, Dr. Chen, thank you, again for the wonderful presentation. I have just a point of clarification on slide nine. Help me understand what's on that Y axis.

AQPSD STAFF AIR POLLUTION SPECIALIST CHEN: Yes. So the Y axis is the total diesel PM related cancer risk for the two years that are showing.

BOARD MEMBER SHAHEEN: What's the scale?

AQPSD STAFF AIR POLLUTION SPECIALIST CHEN: Per million.

BOARD MEMBER SHAHEEN: Per million.

AQPSD STAFF AIR POLLUTION SPECIALIST CHEN: Yes.

BOARD MEMBER SHAHEEN: Okay. Thank you. That's what I was looking for. All right. Yes, Dr. Balmes pointed out that I'm a scientist, so I'm sorry, but that's why I'm on the Board. So -- and Dr. Balmes, I totally appreciate your comment on slide nine. I think these data are really instructive. I love longitudinal analysis. While I'm not thrilled with the lack of progress on the international border, I also noted though that in that

spread, right, that shows about a 42 percent percentage point reduction, that there's only a 31 percent reduction in the area of off-road area emissions in diesel particulate matter.

So I was curious how we target that, if, you know, those data aren't showing as great a reduction as we're seeing on-road and in the area of ocean-going vessels.

DEPUTY EXECUTIVE OFFICER CHANG: This is Edie Chang. So in terms of the off-road this is sort of more of a control strategy question. And we have in recent years started looking more at off-road emission reductions from diesel sources, both from sort of kind of the -- I would call them the traditional sources, like construction equipment, farming equipment even within census programs, as well as programs that reduce emissions from diesel engines that work on freight sources. So it is an area that is sort of -- it's following what's happening on on-road, but it has been a big focus of our control program. So we would expect to see going forward to see more progress in that area.

BOARD MEMBER SHAHEEN: Yeah. Thank you. That's why these types of data are so instructive, right, because they can tell you where we need to focus. The other slide that my eyes went to, and Dr. Chen, I think I spoke to you

about this in our briefing, is slide 13, which shows a clear hot spot in the CATA modeling efforts in Bakersfield. And so that's obviously really concerning. And my question relates to back, you know, from this particular area and how we might be integrating that. But there's also, as you can see in the Southern California region, additional hot spots, but really that Bakersfield really stood out to me. So I was wondering how we're working with the community there to integrate their feedback?

AQPSD CHIEF BENJAMIN: This is Michael Benjamin. So, as I mentioned earlier, we're working very closely with our Office of Community Air Protection to share the results with the community members and to talk with them about what the most significant sources are. One of the things that I think we all need to remember with what we're seeing today is that this is a snapshot from 2017. And so the risk that is currently being posed to the communities, for example, in Bakersfield, if we were to go to the slide that shows the projections to 2021, I think we'll see that there's a really dramatic reduction that we're anticipating seeing, and that the Bakersfield communities will benefit from. It's not to say that they're not exposed to proportionately higher risks than surrounding areas, because it is a hub for transportation

freeways, and rail, and so on that pass through the Bakersfield area.

So I think it, again, highlights the importance of our control programs and the need to continue to press on those, in order to be able to address this disparity in risk that we're seeing in the Bakersfield area. But we are working very closely with our Office of Community Air Protection on community outreach and communication.

BOARD MEMBER SHAHEEN: Thank you so much. And just one final question. We also spoke about urban wildfires and their potential integration into the CATA modeling. Dr. Chen, I don't know if you could address that question.

AQPSD STAFF AIR POLLUTION SPECIALIST CHEN: Sure. So since the 2017 assessment, we have been including the impact of wildfires. Although, CATA focuses on the long-term health impacts. And so it doesn't include the acute health impact that may come from wildfires. And if it is -- if we want to look at a more comprehensive health assessment from specific wildfires, additional modeling efforts will probably be needed to look at specific toxics that may be released from that wildfire, especially if there's structural burns involved.

BOARD MEMBER SHAHEEN: Yeah. I think now that we've seen, you know, more than one major urban wildfire

disaster in this State, I think getting that into this particular model would be wonderful. Thank you for addressing my comments.

Thank you.

BOARD MEMBER TAKVORIAN: Okay. Thank you. So now we'll hear from the public who will -- who has signed up to speak on this item, either by submitting a request to speak card or a raised hand in Zoom. So I'll ask the Board Clerk to begin calling the names of the public commenters.

BOARD CLERK LEVRINI: Thank you, Ms. Takvorian. We do not have any commenters for this item

BOARD MEMBER TAKVORIAN: On either platform?

BOARD CLERK LEVRINI: On either in person --

BOARD MEMBER TAKVORIAN: Okay.

BOARD MEMBER LEVRINI: -- or -- oh, it looks like we might have a panelist.

It looks like Ms. Ortiz-Legg would like to speak.

BOARD MEMBER ORTIZ-LEGG: Yes. Thank you. You know, it's so great to have the data. Really appreciate it and thank you for giving us all these details. I think one of the things that I'm curious about is that, you know, it's pretty obvious when you look at the sectors that we're talking about real economic drivers. And I'm wondering if there's any ability to really take a look at

those targeted sectors in relations to jobs and economic impact, because I think that there's a really clear indicator here that we've got to be mindful of, but I will also note that I think that the 2021 progress is going to be important because it's going to demonstrate that a Lot of effort has been put in place.

So I guess my question is basically is there a capability to add a component of this to -- relating to what those impacts are economically in regards to those sectors that we target to the reduction of emissions? Thank you.

EXECUTIVE OFFICER CLIFF: Well, thanks for that question. Generally speaking, each regulatory action that we take we evaluate the economic impacts. And for the most part, regulations that tend to reduce energy use, such as those targeting zero-emission vehicles save consumers money and have positive impacts on the economy.

Furthermore, we also incorporate the public health benefits of those actions. So just as an example, if you look at what the Senate is taking up today, there's about 43 -- $45.3 billion in public health benefit associated with those actions, and by, for example, the Senate trying to wipe out our authority to enforce those regulations. If that were to ultimately be upheld, it would impact the economy by increasing public health costs

by that $45 billion. So that's just sort of an example of the benefits associated with these regulations that we track.

This type of modeling effort is not really targeted at looking at those economic impacts, but that is part of our ongoing analysis.

BOARD MEMBER ORTIZ-LEGG: Sure.

EXECUTIVE OFFICER CLIFF: And then for any (inaudible) that we undertake, we also look at those types of -- those types of data points.

BOARD MEMBER ORTIZ-LEGG: Yeah. Yeah. Understood. Really important stuff obviously. Health is the most important thing that we can have. I think that regarding jobs is kind of, you know, really the target in my question. But knowing that there's only so much we can do and that we have a goal here, but I do think that there's a connection. And just so that the public can understand, you know, when we're talking these equations what it can mean locally to different districts in regards to their economic drivers. So thank you very much.

BOARD MEMBER TAKVORIAN: Thank you, Board member. And I apologize for not seeing your hand raised. I'm still looking at three screens and trying to figure it out.

BOARD MEMBER ORTIZ-LEGG: Yeah, that's okay. It

was a late raise. Thank you.

BOARD MEMBER TAKVORIAN: I'm managing all of this. So are there any other Board members online that -- I don't see any other.

Now, Mr. De La Torre. But let me just check. Are there -- do you see any -- clerk, I'm sorry. Do you see any other hands raised? I don't.

BOARD CLERK LEVRINI: Not for Board members, no.

BOARD MEMBER TAKVORIAN: Okay. Okay. Thank you.

BOARD CLERK LEVRINI: We do have one Zoom commenter though, when we're ready for that part.

BOARD MEMBER TAKVORIAN: Thank you.

BOARD MEMBER DE LA TORRE: Thank you. I didn't have a question, so...

BOARD MEMBER TAKVORIAN: Thank you.

BOARD MEMBER DE LA TORRE: It's about MATES, which I'm very (inaudible) accessing it (inaudible). And one of the things that I've seen there that is relevant to this conversation -- and we discussed (inaudible) is that we've made incredible progress, incredible progress in the South Coast Air Quality Management District. (Inaudible) 20 years ago -- 20 plus years ago, most of Southern California was purple, which was the most at risk (inaudible). The most recent one, which was before 2017, something like that, there's only one purple spot left in

Southern California in the South Coast Air District. And it stands out, because everything else is, you know, not green, but pretty good.

It's the port complex. Port complex of San Pedro (inaudible), Long Beach. And I bring this up all the time when I'm dealing with the ports because they -- even though we've made this incredible progress through all of our regulations, through the regulations there, it's still the biggest problem. And so I see the hot spots on here statewide, and they mirror that kind of activity. And that's a problem. And we need to talk more about how -- pat ourselves on the back, well deserved, but we need to keep the focus on these hot spots. We need to talk to the community about these hot spots and why they are hot spots. And obviously, it's diesel.

I --in Southern California, diesel accounts for over 70 percent of the carcinogenic defect of air pollution. And during my briefing -- I always thought the statewide number was less, but now it's caught up. It's also over 70 percent statewide. So, diesel and I've said it here many, many, many, many times to kill diesel, because it's killing us. So I just wanted to flag that, because these -- this data mirrors that data. And, you know, scientists in the room, you know, numbers don't lie.

So, I just wanted to emphasize that, because the

patterns are there. Thank you.

BOARD MEMBER TAKVORIAN: Okay. Thank you.

I want to put my Board member at on for just a second, because I had a couple of comments to follow up on Mr. De La Torre's as well as Dr. Balmes. I just -- I just want to give me huge gratitude to this team for the incredible work that you've done. And I started my career in community right to know a few decades ago and I think that this is such an enhancement and delivering the kind of data that the public really needs to know. And I appreciated your question, Dr. Shaheen, because I think the public has many questions. And what we want is to present this in the most user-friendly way possible. And I think -- (clears throat) -- excuse me -- you've got a long way to doing that. So huge gratitude to you for that, for the entire state.

And I just want to say that I really appreciate you weighing in and wading in to the Portside community debate about cancer risk and about how we measure that. And I don't know that that's over yet, but I think this data makes it very clear to emphasize Mr. De La Torre's point that the ports have a huge role. And I think that many of them are stepping up and working on it, but it really points to that and it really emphasizes the need for the rules that we've adopted and more that we have on

our plate.

I also want to express gratitude for your flex really -- actually, the whole agency's flex to really addressing the issues of cross-border pollution. I mean, we really live in a schizophrenic kind of community, given the lack of rules in Mexico and the lack of enforcement of rules in Mexico, although things have changed over my time in that region, but we can really see the difference. And we have the busiest port in the world -- busiest border crossing, excuse me, in the world at the U.S.-Mexico border in San Diego and Tijuana, so we really see what the impacts are, and the communities that I've worked in in Mexico are really suffering. And we just can extrapolate that data right at the border for the impacts of those communities that are on the border.

So please know that your -- the data I think is going to be influential for those recipients in Mexico, who I think are looking at this data very carefully and thinking about the rules and the actions that they can take as well. So another example of how CARB is having an international impact.

So I that's -- those are my comments, and again, big gratitude to you, since we have --

BOARD CLERK LEVRINI: The hand is down. We're good. So no in-person and no Zoom --

BOARD MEMBER TAKVORIAN: Okay. Hand is down.

BOARD CLERK LEVRINI: -- commenters for this item.

BOARD MEMBER TAKVORIAN: All right. So, Dr. Cliff, are there any other comments that staff may want to make on this item?

EXECUTIVE OFFICER CLIFF: No, thank you.

BOARD MEMBER TAKVORIAN: Thank you. So this is an informational item only, so there's no need to close the record, and with that our Board member questions.

So before we move to the next Board item, as Dr. Balmes has kind of teed up for us, I want to acknowledge Michael Benjamin. So the Division Chief -- who is the Division Chief of the Air Quality Planning and Science Division. Michael is retiring from CARB after 32 years -- sorry, Michael. Michael is retiring from CARB after 32 years of exemplary service that has spanned the Mobile Source Division, the Research Division, the Monitoring and Laboratory Division, and AQPSD.

Michael will be greatly missed, but his legacy will live on in work like this CATA model we just heard about. Thank you so much.

Throughout his career, Michael has championed scientific integrity and advanced the technical underpinnings of CARB's work, the foundation that all of

our control programs are built on. The work that he and his staff have done ensures that we target the right sources of pollution and that we have a strong evidence based to push for the rigorous regulations needed to clean California's air.

Michael cares deeply about his staff and is a staunch advocate for what is right. He has garnered the respect of the Board, his colleagues, the air districts, and our many stakeholders. Michael, thank you for all you have done for CARB and for the people of California. We wish you well in your retirement.

(Applause).

AQPSD CHIEF BENJAMIN: Thank you.

BOARD MEMBER TAKVORIAN: Okay. So moving to the next item. Thank you so much.

BOARD CLERK LEVRINI: Ms. Takvorian, I believe Board Member Pacheco-Werner would like to speak.

BOARD MEMBER TAKVORIAN: Thank you.

BOARD MEMBER PACHECO-WERNER: Yes. Thank you. Thank you, Board Member Takvorian. I just didn't want Michael to leave without just knowing how much he's meant to the valley and how much he's meant to not only our constituents but the air district and myself personally. So thank you for always, you know, putting people and science together, because I think that's how we navigate

things best. And you were just so skillful in that. And I wish you the absolute best, but you will absolutely be missed. Thank you so much.

BOARD MEMBER TAKVORIAN: Thank you.

So the last item on the agenda, is Item number 25-3-2. This is an informational update on natural and working lands and nature-based strategies.

If you're here with us in the room and wish to comment on this item, please fill out a request-to-speak card as soon as possible and submit it to a Board assistant. If you're joining us remotely and wish to comment on this item, please click the "Raise Hand" button or dial star nine now. We will first call on in-person commenters followed by any remote commenters when we get to the public comment item of this -- public comment portion of this item.

Today, we're going to have a staff presentation on the work they've been doing to support nature-based climate strategies and how this sector is part of our overall climate strategy. Natural and working lands help to mitigate climate change and support all life within California. California is home to the world's tallest, largest, and oldest trees, our redwoods, sequoias and bristle cone pines. Our Central Valley is home to the most economically productive agricultural system in the

United States. Within our borders our both at the highest peak at Mount Whitney and the lowest point at Badwater Basin in the lower 48 states, within biking distance of one another.

California is home to the most National Parks and the most endangered species in the United States. Natural and working lands also include the everyday green spaces that are embedded within our communities, our parks, playgrounds, and backyard gardens.

People flock to California's coastlines, parks, and mountains from around the world every year to see this special place. It is these lands that CARB, and California more broadly, are working to protect and make more resilient. This will help in the fight against climate change and will enhance the health and well-being of our communities and ecosystems.

California's natural and working lands are on the front line of climate change. Reducing and avoiding the impacts of climate change on our lands, has been woven into -- has been woven into California's climate strategy since its inception. As we close in on almost 20 years, since the adoption of Assembly Bill 32, it is now more important than ever to remind ourselves of what is at stake, both for the people of California and for this state's natural and working lands.

I'm going to read a short quote from California's Global Warming Solutions Act of 2006, that hallmark legislation that ultimately is the reason we are here today. Introductory text of AB 32 says, and I quote, "Global warming poses a serious threat to the economic well-being, public health, natural resources, and the environment of California. The potential adverse impacts of global warming include the exacerbation of air quality problems, a reduction in the quality and supply of water to the state from the Sierra snowpack, a rise in sea levels resulting in the displacement of thousands of coastal businesses and residences, damage to marine ecosystems and the natural environment, and an increase in the incidences of infectious diseases, asthma, and other human health-related problems. Global warming will have detrimental effects on some of our largest..." -- "...on some of California's largest industries, including agriculture, wine, tourism, skiing, recreational and commercial fishing and forestry."

Some of these predictions are now a reality. A 2024 national report ranked California the worst state for natural disasters, fueled by a changing climate, with expected annual losses totaling more than $16 billion statewide.

Home insurance is harder and more expensive to

get. Yes, we just went through that struggle in my household. During seven extreme heat events over the past decade, California experienced $7.7 billion in losses. And over the last -- over the past two decades, wildfires intensified by climate change have reduced thousands of homes to ashes, displaced tens of thousands, and tragically taken lives. Entire communities made up of homes, schools, businesses, and gathering spaces have been lost. The recent wildfires in Southern California alone are estimated to have caused over $250 billion in economic losses.

While California has always grappled with natural disasters, there is no doubt that they are being made worse by climate change. Everyone in this room likely has either been affected by or is close to someone that has been directly affected by a recent climate-fueled disaster. Doing nothing is not an option here in California. We have a legal, scientific, and moral imperative to act. On the legal side, the Legislature and the Governor gave this Board the responsibility and authority to reduce greenhouse gas emissions in California. Legislative mandates have repeatedly reaffirmed and guided that responsibility, most recently with AB 1279 in 2022, which requires California to be carbon neutral no later than 2045.

We have approached the charge to reduce greenhouse gases and achieve carbon neutrality seriously. We have been guided each step of the way with the science and facts on our side. When this Board voted in 2022 to approve our current Climate Change Scoping Plan, we made it clear that the path to achieving carbon neutrality means reducing our greenhouse gas emissions and increasing the deployment of nature-based strategies.

We are here today for an update on the work that has happened since we approved the 2022 Scoping Plan and to continue the legacy of years of leadership from our state this Board on climate action.

Dr. Cliff, would you please introduce this item.

EXECUTIVE OFFICER CLIFF: Thank you, Board Member Takvorian. Today, staff is presenting and overview of natural and working lands, how they contribute to California's carbon neutrality objectives, and how this is tracked and quantified. This is a non-voting item and is an opportunity for Board members to further familiarize themselves with this program, provide input, and ask questions of staff.

Natural and working lands include the lands and waters that we enjoy here in California. These lands and waters provide the air we breathe, the water we drink, the trails and parks that we enjoy, the wildlife that inspire

us, and the food that we eat. These lands and waters also store much of the state's carbon.

Staff works to identify the contribution that these lands have towards the state's goal of carbon neutrality and advances nature based strategies across multiple program areas. Today, you'll hear about the work the Industrial Strategies Division, or ISD, is doing to advance nature-based strategies in support of California's overall climate goals.

Before I hand it to ISD staff for the presentation, I want to recognize the other CARB divisions that are also working on nature-based strategies in support of our state's climate and air quality objectives. CARB's Research Division identifies and supports new research on land management outcomes and public health impacts, particularly from wildfire smoke. CARB's Air Quality Planning and Science Division and Monitoring and Laboratory work to monitor and quantify wildfire smoke events and coordinates with air districts in support of safe and effective prescribed burning. Our Sustainable Transportation and Community Division works with agencies like Cal Fire, the California Department of Food and Agriculture, and others to assess the climate and community benefits from Cap-and-Trade investments in nature-based strategies. Our Public Information Office

works to increase awareness of smoke impacts and prescribed fire events through tools like our Smoke Spotter mobile application.

Throughout the years, as we've developed these efforts across CARB, we've remained focused on ensuring that CARB's nature-based strategy efforts prioritize reducing climate and air pollution in improving -- and improving public health, as well as bringing additional environmental and economic benefits to Californians.

Today, we also have representatives from two of our close State agency partners at the table who are leading on implementation of nature-based solution climate impacts: Amanda Hansen, Deputy Secretary for Climate Change at the California Natural Resources Agency; and, Virginia Jameson, Deputy Secretary for Climate and Working Lands from the California Department of Food and Agriculture. They will provide a few short remarks after the staff presentation.

And with that, I will now ask Dr. Chelsea Carey of the Industrial Strategies Division to begin the staff presentation and provide more detail on the intersection between carbon neutrality and natural and working lands.

Dr. Carey.

(Slide presentation).

ISD AIR POLLUTION SPECIALIST CAREY: Thank you,

Dr. Cliff. Good morning, members of the Board. Thank you for the opportunity to speak with you today.

My name is Dr. Chelsea Carey and I'm here to share how California's natural and working lands contribute to the state's climate goals and to describe the work that CARB is doing to accelerate climate action in lands.

[SLIDE CHANGE]

ISD AIR POLLUTION SPECIALIST CAREY: As mentioned in the opening remarks, natural and working lands include all landscapes in California, from forest to cities, croplands to deserts, these landscapes aren't just beautiful scenery, they are living systems that provide critical ecosystem services. They support biodiversity, safeguard water and air quality, produce food and fiber that feed the nation, and importantly for our work, they help regulate the climate.

[SLIDE CHANGE]

ISD AIR POLLUTION SPECIALIST CAREY: California's natural and working lands, and the communities that depend on them, are increasingly threatened by climate change. Rising seas, shrinking snowpack, drought, heat waves, and severe wildfires are already impacting lives and livelihoods. Between 2012 and 2023, extreme heat caused an estimated $7.7 billion in damages. The 2021 drought

alone led to $1.7 billion in losses in the agricultural sector and nearly 15,000 lost jobs. Wildfire risks are also reshaping the insurance market, making coverage harder to get and more costly. These growing threats underscore why investing in natural and working lands is vital, not just for cutting emissions, but for protecting our communities.

[SLIDE CHANGE]

ISD AIR POLLUTION SPECIALIST CAREY: The impacts climate change is having on California's lands reflects a body of research that's amassed over decades. The body of knowledge that's been produced is best reflected in the work of the Intergovernmental Panel on Climate Change, or the IPCC, which has compiled a robust body of evidence that forms the scientific foundation for climate action.

Starting with the first report in 1990, the IPCC assessments have deepened our understanding of how human activities, and specifically the burning of fossil fuels, are driving climate change, what the impacts of that are, and what can be done to address them. Over time, this body of evidence has made clear the vital role of lands in mitigating climate change and helping communities adapt to growing climate change impacts. And in 2018, there was a landmark IPCC report that emphasized the urgent need for nature-based solutions as a critical pathway to meeting

global climate goals.

The 2015 Paris Agreement built on this science to set a target of limiting warming well below two degrees Celsius. This Agreement it acts as a flagship example of how the scientific foundation has translated into global climate policy.

And here in California, we've also followed the science for decades. We produced our own Climate Change Assessments and Scoping Plan analyses that align with the IPCC's findings and that provides state-of-the-science, California-specific information to support strong and ambitious climate policies.

[SLIDE CHANGE]

ISD AIR POLLUTION SPECIALIST CAREY: Building on this scientific foundation, California has established the goal of achieving carbon neutrality by 2045. This strategy requires significant emissions reductions from fossil fuels, industrial sources, landfills, and dairies, which are tracked in CARB's AB 32 greenhouse gas inventory. In addition to reducing emissions, reaching carbon neutrality requires drawing down carbon from the atmosphere through carbon removal technologies.

To fully account for California's carbon balance, we must also consider natural and working lands. These are dynamic systems that can be either a sink or a source

of emissions.

CARB's natural and working lands inventory it tracks changes in carbon across these lands, representing the net balance of carbon emissions and removals that are driven by climate, land use change, management, wildfire, and other factors over time.

Incorporating natural and working lands into the state's carbon accounting is an essential step towards achieving carbon neutrality.

[SLIDE CHANGE]

ISD AIR POLLUTION SPECIALIST CAREY: On the previous slide, I outlined the main components of California's carbon neutrality strategy: significant emissions reductions from AB 32 sources, accounting for natural and working lands, and the need for carbon removal. We also have several more specific targets, such as reducing greenhouse gas emissions by 85 percent.

But, even after ambitious action to reduce greenhouse has emissions, we still expect that there will be remaining emissions that need to be compensated for to achieve carbon neutrality. The graph on the right of this slide it shows the outcome from our 2022 Scoping Plan analysis, which shows those remaining emissions in 2045.

And because natural and working lands can act as net sinks in certain places and at certain times, but can

also act as net sources of emissions, failing to reduce emissions from these lands can make the path to achieving carbon neutrality even more challenging.

[SLIDE CHANGE]

ISD AIR POLLUTION SPECIALIST CAREY: Now, I want to take a moment and recognize that focusing on natural and working lands and nature-based climate solutions is not a new thing for CARB. CARB's efforts on natural and working lands date back to 2006 with AB 32 and our first Climate Change Scoping Plan that included initial forest carbon assessments, which was approved by the Board in 2008.

From there, momentum built steadily. The Cap-and-Trade program introduced its compliance forest-offset protocol the same year. The Board also approved offset protocols for urban forests, livestock methane, and rice methane. Cap-and-trade auction proceeds have been a significant source of funding over the past decade, supporting many of the State's land programs, like CDFA's Healthy Soils Program and CALFIRE's Healthy Forest Program.

In 2018, CARB published the first official Natural and Working Lands Carbon Inventory, which quantified how much carbon is stored in California's landscapes. Staff used that initial inventory, and

outcomes from our Cap-and-Trade investments, to develop the natural and working lands carbon target that was approved by the Board in the 2022 Scoping Plan. We also used this analytical work to support the establishment of the statewide AB 1757 nature-based solution climate targets, which I'll speak to later in this presentation.

Again, taken together, these milestones, they illustrate that California's work on nature-based strategies is not new. I hope you can also see that our nature-based strategy work rests on a strong scientific foundation, has had long-standing legislative support, and follows a clear policy trajectory, giving CARB both the overall authority, science, and the momentum to maintain California's lands as a central component of the State's climate-mitigation strategy going forward.

[SLIDE CHANGE]

ISD AIR POLLUTION SPECIALIST CAREY: Now, the progress I've just walked through and the achievements still ahead are made possible, in part, because CARB has been able to build a dedicated and growing team of natural and working lands experts. Most recently, the creation of the Nature-Based Strategies Section has added new depth to CARB's expertise, which is represented by the team members shown here.

Together, with the many additional colleagues

from across CARB's -- from across CARB working on natural and working lands, we're able to maintain and advance our internationally recognized, leading-edge programs.

[SLIDE CHANGE]

ISD AIR POLLUTION SPECIALIST CAREY: One of staff's core responsibilities to -- is to maintain and update the State's natural and working lands carbon inventory. This inventory it includes every acre of California, regardless of ownership or management.

As the map on the left indicates, tracking all lands is essential to estimating the carbon stock and greenhouse gas trends within California's borders, both inside and outside of funded project boundaries.

This inventory tracks the natural carbon cycle, which includes all of the carbon entering lands through photosynthesis, and all of the carbon leaving lands through respiration, and decomposition, management, and wildfire. The arrows on the right illustrate that carbon in these systems it moves in both directions. And ignoring either side misrepresents reality, which is why CARB's inventory it measures carbon stocks and stock change over time. This approach follows the IPCC guidance and it integrates all removals and emissions into a single net change across space and time.

[SLIDE CHANGE]

ISD AIR POLLUTION SPECIALIST CAREY: Here, we see an important example of why taking a whole system view is necessary. This chart, from CARB's wildfire emissions inventory, it displays annual wildfire carbon dioxide emissions as green bars from 2000 to 2023. The dashed black line represents the average annual gross sequestration from California's forests and rangelands, and the blue line shows the average carbon transformed by forest management activities estimated in CARB's SB 901 report, which can be found online.

To put the magnitude of wildfire emissions into perspective, in some years, such as 2008, 2020, 2021, wildfire emissions match or exceed the sequestration average. In other years, the bar sits well below the sequestration line, and often it's even below the forest management line.

Importantly, what this slide shows is that wildfire emissions should not be viewed in isolation or compared against AB 32 source emissions, while ignoring the natural carbon removal that also occurs. One could just as easily only look at the sequestration rates, and ignore the wildfire emissions, and we would be much closer to carbon neutrality, but that would be equally misleading. To account for lands within carbon neutrality, the net change, which includes all emissions

and sequestration must be accounted for.

[SLIDE CHANGE]

ISD AIR POLLUTION SPECIALIST CAREY: CARB staff are currently working to update the natural and working lands inventory, which tracks the contribution of lands to carbon neutrality. Accounting for carbon in lands it's a very different exercise than tracking emissions from AB 32 sources. Natural and working lands can be viewed as the largest system in the state, and it's not one that we engineered. And, in fact, it's one that we're learning more about every day. Further, there's no mandatory monitoring or reporting system that currently exists for lands, as it does for AB 32 sources.

This all makes accounting for carbon in lands a complex and scientifically challenging task, especially when incorporating land management, climate action, wildfires, droughts, and other natural disturbances. To accomplish this task, CARB staff use satellites and aerial sensors, along with flux towers and field observations, to estimate within super computers the carbon in all of California's plants and soils over time. The inventory spans from 2001 to as current as possible, and it includes accounting for carbon in harvested wood products as well.

This work, of course, is ever evolving, and we're excited to share that we're currently working on the 2025

inventory update that will introduce major methodological enhancements, providing the most comprehensive accounting of carbon stored in California's plants and soils to date.

[SLIDE CHANGE]

ISD AIR POLLUTION SPECIALIST CAREY: Nature-based solutions are one of the most powerful tools at our disposal for improving outcomes from the land. Nature-based solutions describe actions that work with and enhance nature to address societal challenges. They provide many benefits, including those listed on this slide.

As laid out in the Natural and Working Lands Climate Smart Strategy, nature-based solutions are central to California's strategy for harnessing the power of our landscapes to meet the State's climate goals. Among many examples, nature-based solutions include healthy soils practices on croplands, fuel-reduction treatments in forests, and urban and community greening projects across our neighborhoods.

Over the coming years, we expect there will be billions of dollars in private and public investments made to support these solutions, and CARB is working with our sister agencies to make sure that we can account for the outcomes of these investments as we track progress towards carbon neutrality.

[SLIDE CHANGE]

ISD AIR POLLUTION SPECIALIST CAREY: So, what does the long-term trajectory of greenhouse gas fluxes from our lands look like and what should be the north star for carbon in our landscapes?

We analyzed these questions as part of the 2022 Scoping Plan and identified an ambitious level of natural and working lands climate action that's needed to ensure California loses no more than four percent carbon stock between 2014-2045. The finding of the Scoping Plan, which is substantiated by independent research, indicates that California will most likely lose carbon over the coming years no matter what we do, short of stopping climate change through the reduction of fossil fuels.

With that said, through accelerated and thoughtful application of nature-based solutions, carbon losses can be minimized and, importantly, the negative impacts from those losses can be reduced. As one example, the 2022 Scoping Plan found that through wildfire fuel reduction, California could save over $3 billion in health cost savings from reduced wildfire emissions alone. This doesn't account for all the other benefits that communities will receive from healthier ecosystems more broadly.

As a reminder, before I close this slide, our

objective here is to limit land-based carbon losses as well as to maximize the health and resilience of ecosystems and communities through the application of nature-based solutions statewide.

[SLIDE CHANGE]

ISD AIR POLLUTION SPECIALIST CAREY: The most impactful way the State of California can enhance the health and resilience of our lands and communities is to reduce greenhouse gas emissions coming from AB 32 sources. This is because drought and extreme heat that are caused by climate change, they promote catastrophic fires, and they undermine the ability of California's ecosystems to sequester and store carbon.

However, as I've already described, scaling nature-based solutions is another way the State can help to alleviate the impact of climate change on our lands and then decrease the resulting emissions that it would cause. In order to help achieve our Scoping Plan goals, just last year, the State established a set of 81 nature-based solution climate targets, which were announced by Governor Newsom. These targets represent a significant expansion of the pace and scale of climate action on California's natural and working lands. They span all land types and include solutions ranging from wildfire fuel reduction and grassland restoration to urban greening and organic

agricultural production.

The objective of the targets is to enhance the health and resilience of our ecosystems and communities, while also driving towards more sustainable carbon stocks. When we achieve these targets, the equivalent of half of California's land area will have received some type of nature-based solution.

[SLIDE CHANGE]

ISD AIR POLLUTION SPECIALIST CAREY: It's essential that we understand where and when these nature-based solutions are occurring on the ground, as well as other land management actions and disturbances. This information is needed to help assess their impact on carbon dynamics and on other ecosystem outcomes.

Carbon in plants and soil it responds to many drivers, including land management, such as timber harvesting, crop tillage, and organic amendments. It also responds to stress and disturbance, such as extreme heat, drought-induced tree mortality, insect outbreaks, and wildfires.

In this way, tracking ecosystem carbon dynamics is, in part, an exercise in tracking the timing and location of natural events and human inventions on the landscape. The map shown here provides a snapshot of many of these events, including land management and wildfire,

which were included in the 2018 natural and working lands carbon inventory. Because there are currently no mandatory monitoring and reporting requirements for land management in California, our team relies on remote sensing, as well as close collaboration with state and federal partners, to identify the most effective and the most efficient ways to track where and when natural disturbances and land management actions are taking place across the state.

Tracking these drivers of change is critical for maintaining a robust and accurate inventory and for ensuring progress towards the State's climate-related targets is being achieved.

[SLIDE CHANGE]

ISD AIR POLLUTION SPECIALIST CAREY: Now, CARB and the State of California, however, cannot achieve targets on California-owned lands alone. Shown here is a map of land ownership in California, along with a table showing the percentage of ownership by land type.

What I'd like to point out here is that federal -- the federal government owns almost half of California's land area, and private entities own almost all the other half, with the State of California owning only three percent of California's land. So we must continue to find ways to advance nature-based solutions on

private, tribal, and federally owned lands.

[SLIDE CHANGE]

ISD AIR POLLUTION SPECIALIST CAREY: This ownership structure is one of several reasons why collaboration is essential for success. Advancing climate action, whether it's implementing practices, tracking outcomes, or sharing data, it depends on working closely with these partners. But land ownership is just one part of the picture. CARB's work on natural and working lands requires coordination more broadly with many state, federal, and private partners, who have programs that affect our landscapes.

We also work closely with researchers to continue to incorporate scientific improvements into our work. As one example, we're currently working closely with our State agency partners to continue improving the ways we track nature-based solutions as well as quantify the effects they have on carbon and other outcomes statewide and at regional scales.

Beyond the technical work to assess carbon changes, CARB helps develop and support policies that enable implementation on natural and working lands. Our work to support Cap-and-Trade auction proceed investments, the offsets protocols, the low carbon fuels program, and prescribed burning are just a few examples.

This coordination and collaboration across all areas of work is critically important and is what makes meaningful progress on natural and working lands possible.

[SLIDE CHANGE]

ISD AIR POLLUTION SPECIALIST CAREY: To close, California's natural and working lands play a vital role in reaching our carbon neutrality goals. Nature-based climate solutions will be essential to limit carbon losses on these lands to no more than four percent between 2014 and 2045.

And because these landscapes are highly dynamic and constantly changing, we need cutting-edge science and technology to track trends, measure co-benefits, and understand trade-offs with other ecosystem services.

To help meet this challenge, CARB was able to expand its internal expertise over the past year, positioning the agency to continue leading in carbon monitoring and natural and working lands climate science. And throughout all of this, collaboration remains at the center, helping to link science, policy, and action through strong partnership across agencies and sectors.

I'll now hand it over to Virginia Jameson, Deputy Secretary of Climate and Working Lands at the California Department of Food and Agriculture to provide some additional remarks.

CDFA DEPUTY SECRETARY JAMESON: Thank you, Dr. Carey and good morning members of the Board. Thank you for the opportunity to be here today and talk about how we are implementing nature-based solutions at CDFA. I'd like to thank the CARB staff. They are wonderful to collaborate with and we are really proud to be part of these efforts.

So nature-based solutions are vital in agriculture as we continue to experience increasingly severe impacts of climate change that have real consequences for our food system. Nature-based solutions, or healthy soils practices in the cropland and grazing land context, provide climate-resilience benefits that help keep our lands producing the food that our State and nation depend on. California produces the vast majority of the nutritious specialty crops in the nation and produces them with extremely high environmental and labor standards.

CDFA has been working on nature-based solutions for several years and was given authority to do so by the Cannella Environmental Farming Act of 1995, which requires CDFA to oversee environmental farming programs to provide incentives to farmers whose practices promote the well-being of ecosystems, air quality, and wildlife and their habitat.

An example of that is our Healthy Soils Program, which was established in 2017 and which has been supported by California climate investments and general funds for most years since then and will be supported by Prop 4 over the next couple of years.

The bulk of the funding goes to incentives for farmers and ranchers to implement new practices on their farms and ranches. So far, the State has invested about $205 million for practices on over 200,000 acres. Our last round of funding was distributed as block grants, and as some of our grantees are still enrolling producers, we don't have an exact acreage for you yet, but more to come.

At least five percent of each appropriation of that program goes to technical assistance, which helps to derisk new practice adoption by producers. There have also been a number of one-time appropriations that have supported nature-based solutions in agriculture. For example, we had a $15 million appropriation in 2021 for our Pollinator Habitat Program, which paid for the installation of trees, hedge rows, and cover crops for pollinator habitat.

We also had an appropriation for our conservation agriculture planning grant program, which assists producers with various types plans, such as carbon farm plans and nutrient and water management plans, and that

program received $17 million in 2021 and funded 98 projects. And then finally, our organic transition program awarded just over $10 million over 2022 and 2023 as block grants to technical assistance providers who helped farmers transition to organic production.

All these practices have a number of benefits beyond greenhouse gas emissions reductions. They are critical for building resilience to climate change by increasing the water-holding capacity of soils and improving water infiltration, retaining and providing nutrients, prevent erosion, and safeguarding fertile topsoil and preventing dust and supporting biodiversity.

In the time that CARB finalized the Scoping Plan and that we collectively reduced -- released our 1757 targets, unfortunately we've seen a pullback from the federal government in support for these types of resilience building practices.

For example, the Natural Resources Conservation Service provided some cost sharing for soil conservation practices through the Environmental Quality Incentive Programs since 1996. And funding for those primarily comes from the farm bill. In 2024, the NRCS made over $3 billion of Inflation Reduction Act funding available through the EQIP program nationwide and then an additional $7.7 billion for 2025.

However, since then, all but $20 million, or 0.35 percent, of those funds, which were for already awarded projects, have been paused. That dollar amount actually also covers other programs besides EQIP and its unclear what proportion will go to EQIP.

Another program that would have made significant investments in California was the Partnerships for Climate-Smart Commodities Program. This nationwide Program, which had been funded by Commodity Credit Corporation, would have supported healthy soils practices for hundreds of farmers in California. But beyond that, the Program had a significant focus on measurement, monitoring, and verification of GHG outcomes. That would have helped us bolster climate modeling and track GHG efforts nationally, and better enable farmers and ranchers in the voluntary carbon market.

There were 37 projects representing $1 billion in California and only three of those will continue under the significantly pared down and renamed Program Advancing Markets for Producers. The good news is that we recently convened a group of partnership's grantees, and there's still significant interest in investing in Healthy Soils and MRV work, and we will see a bit of Prop 4 money, as I mentioned before, $65 million to Healthy Soils, which the Department will award over the next couple of years.

So that concludes my remarks and I'll now pass the mic to Amanda Hansen, Deputy Secretary for climate change at the California Natural Resources Agency, who is joining us online.

CNRA DEPUTY SECRETARY HANSEN: Thank you, Virginia.

Can you hear me?

Okay. Great. Thank you so much, Virginia. Hi, everyone. My name is Amanda Hansen and I serve as the Deputy Secretary for Climate Change at the California Natural Resources Agency. Our mission is to help all Californians and nature thrive together. Over the last six years, a key area of focus for our agency has been answering the Governor's call in Executive Order N-82-20 to elevate the role of lands in achieving California's climate goals. We've done this work in very close collaboration with other State agencies, the scientific community, land managers, California Native American tribes, nongovernmental organizations and nonprofits, an expert advisory committee, and many more partners across the state and around the world.

Just a few points of progress for California's nature-based solutions climate agenda since then is we released the first climate strategy for California's land sector, which Chelsea mentioned in her presentation. We

integrated this strategy into the Scoping Plan, as well as our State adaptation strategy. We've invested approximately $9.3 billion since 2020 to accelerate our nature-based solutions agenda, and we've built partnerships with nature-based solution leaders from around the world, including China, Australia, Canada, and South Africa.

We've also, as mentioned by others, implemented key portions of Assembly Bill 1757, including the release of California's first nature-base solution climate targets last year.

A few areas of current focus for the Resources Agency. First, supporting implementation of these targets, for example, through the $10 billion climate bond approved by voters last year. The Governor's budget proposes approximately 2.7 billion for the first year of a multi-year bond expenditure plan, and by our count up to two-thirds of this first year's investments can deliver on our nature-based solution climate targets. Second, we're focused on measuring progress toward achieving the targets. And as Chelsea mentioned, we don't currently have a comprehensive understanding of who is implementing nature-based solutions on California's lands, where that work is happening, over what time frame.

We're also very focused on updating our climate

strategy for lands. We released the first in 2022 and an update is due this year. It will focus heavily on identifying challenges and solutions to implementing those targets.

And finally, we're supporting research through California's Fifth Climate Change Assessment to help close gaps in understanding how climate change will impact our lands, as well as how our lands contribute to California's climate goals, both greenhouse gas emissions and building resilience and adaptation.

Thank you so much for the opportunity to present today. I think I hand it back over to Chelsea now. Thanks.

ISD AIR POLLUTION SPECIALIST CAREY: Thank you, Amanda. This concludes this item and I'd like to pass it back to the Board now. Thank you.

BOARD MEMBER TAKVORIAN: Thank you, Dr. Carey and thank you to the presenters today for a really important report I think natural and working lands and their importance in our fight on climate change.

Now, we're going to hear from the public who signed up to speak on this item either by submitting a request-to-speak card or a raised in this Zoom. I'll ask the Board clerk to begin calling the public commenters.

BOARD CLERK LEVRINI: Thank you. We currently

have one in-person commenter. Evan Edgar.

EVAN EDGAR: Good morning, Board members. My name is Evan Edgar. I'm the engineer for the California Compost Coalition. I represent the majority of the compost industry in California, about 75 public and private facilities and personally I permitted 50 of them as an engineer. We represent the majority of the organic compost certified by CDA in California. We're phasing out pesticides in the field, phasing out fertilizers, phasing out landfills and phasing out diesel, as we divert organics from the landfill in their fleet as -- with renewable natural gas.

We have supported the 2020 Scoping Plan natural and working lands. I've been doing this for 30 in front of CARB, so I've been around for while promoting compost. So happy we made some strides in the last five years. I'm in the right place at the right time.

The 5.4 million tons of carbon stock, about half biomass and half soils, we can double that. So I represent big soil, not big oil, support the nature base climate targets. There's about 33,000 acres per year each and every till 2045 which will double the carbon sink for the soils of California. The California climate investment report that CARB puts out every year, looks at how does this program work in arrears under Cap-and-Trade?

There's Cap-and-Trade reauthorization coming along.

Well, this is the most cost effective program, about 108 bucks a ton. Compost development, about 70 bucks a ton, where ZEVs are 1,000 to 3,000 bucks a ton. So when you think about affordability and Cap-and-Trade reauthorization, think about this program. What we're doing is carbon credits, not a cook stove in Africa or some tree in Amazon. We're doing carbon farming right here in Sacramento County at Van Vleck Ranch. I work for the California Rangeland Trust, where we round up all the rangelands to -- for ecological restoration of rangeland with pollinators and biodiversity and the first carbon credit project is 20 miles up the road here on Highway 16, bringing in about to 40 to 50 bucks a ton. And it's nature based high integrity voluntary carbon.

But action is needed. I didn't hear anything about carbon credits. (inaudible) -- part of this program to help fund this program, because there's no Cap-and-Trade money here, very little profit for money.

BOARD CLERK LEVRINI: Thank you, Edgar. That concludes your time.

EVAN EDGAR: I look forward to working with staff on this.

BOARD CLERK LEVRINI: And we do have two commenters in Zoom starting with a Brian Kolodji and a

Richard -- then Richard Filgas.

Brian, I have activated your mic. You may unmute and begin.

BRIAN KOLODJI: California Air Resources Board Chair and attendees, my name is Brian Kolodji. My Last name K-O-L-O-D-J-I. I have several companies -- two companies and one of them has patents that recently were fund -- were implemented with funding from the California Department of Food and Agriculture in the SWEEP Program grant. I was awarded at a almond orchard.

And what we did was we built the world's largest free air carbon bio -- go ahead. Sorry -- free air carbon dioxide in Richmond facility, which is a enhanced nature-based carbon -- direct air carbon capture facility. We would like to implore CARB to consider greenhouse gas calculations for biosequestration, as referenced in a technology referenced in the recent 20 -- recent CARB Scoping Plan.

So again, we're emphasizing nature-based technology for carbon -- direct air carbon capture. And we're also very concerned about other technologies that -- director air capture technologies that don't benefit the ag -- actually, harm agriculture. Our technology benefits agriculture and we're convincing, based on a slide presentation that I presented to you in a comment --

public comment.

So please, I just met with CARB at their -- not CARB, but CDFA at their last meeting and they encouraged that I bring this to your attention. So I added everything into public comments and I'm very grateful for this time to make this public comment orally. Thank you so much. Bye-bye, now.

BOARD CLERK LEVRINI: Thank you. Richard Filgas, I have activated your mic. You may unmute and begin.

RICHARD FILGAS: Thank you. Good morning. My name is Richard Filgas, and I'm with the California Farm Bureau, which is a nonprofit organization representing over 25,000 farming members, including over 20,000 small farms.

I'd just like to first acknowledge that Farm Bureau agrees that natural and working lands inherently combat the effects of climate change from climate-smart practices like planting cover crops and optimizing the use of water, fertilizer, and other ag inputs to voluntary management of forest grasslands, wetland, and croplands. Farmers and ranchers are reducing their footprint, while simultaneously playing an integral role in addressing the impacts of climate change. I think recognition must be made to the fact that many factors control the scale and pace at which climate-smart practices are adopted on farm

or ranch.

And in a risk-ladened industry like ag, where so many factors are uncontrolled, including drought, weather, market, pests, and labor shortages, you know, change is and will continue to be endemic to the natural and working lands sector. In relation, to the organic acreage targets, present in the nature-based solutions climate targets, we'd like to reiterate that we support organic production. In fact, a large portion of our members are certified organic producers. But farmers weigh many factors when they choose to transition their acres, things like the commodity market, access to natural resources, land use patterns.

But unfortunately, these often lead a grower not to transition organic. Even after an organic systems plan has been developed, Farm Bureau believes that market demand should drive increased organic acreage. But in conclusion, just for the conservation values of working lands to be realized long term, their working value must first be sustained, and any policies and regs must fit within the technological and business capacity of farming operations.

Thank you.

BOARD CLERK LEVRINI: Thank. And that concludes the commenters for this item.

BOARD MEMBER TAKVORIAN: Thank you.

Staff, are there any issue that you want to address?

EXECUTIVE OFFICER CLIFF: No, Acting Chair Takvorian.

(Laughter).

BOARD MEMBER TAKVORIAN: Wow. Okay. Good. Thank you very much and thank you to staff for your presentation.

We'll now turn to the Board members and see if there are any comments or questions.

We may have a full house, but I saw Dr. Shaheen first, so thank you.

BOARD MEMBER SHAHEEN: Borrowing a mic. So thank you so much for the presentation. I am just always amazed by the leadership of CARB in this particular area. It's really exciting to me as an ecologist. And I was really struck by slide 16, shows how much of the land is owned by federal government, so like 48 percent, 50 percent of the land. And I wanted to just dig into this a little bit.

So one of the higher distributions is in the area of shrublands, followed by other lands, which I'm not quite sure what that encompasses, because those are very large percent distributions. But I was just curious, you know -- I got the impression from the presentation that we

don't have a lot of control over those lands at all, and what role innovation can play in that, if drone technology, satellite technology, and I know CARB leads and leads with science and innovation. So just really curious, because this is 48 percent of the lands. So I'd love to hear your thoughts.

ISD CHIEF BOTILL: Thanks, Board Member Shaheen. Matt Botill with the Industrial Strategies Division. I think I'm going to pass to Dr. Adam Moreno to answer the questions about how we track and assess changes in carbon stocks on federal lands. And then if our partners, Amanda Hansen or Virginia Jameson, want to answer any questions about strategies in working with the federal government, I welcome them to jump in as well.

So, Dr. Moreno.

ISD NATURE-BASED STRATEGIES SECTION MANAGER MORENO: Hi. Yeah, I'm Adam Moreno. I'm the Manager of the Nature-Based Strategies Second.

And so to monitor changes on land that we don't control, we use a number of factors, kind of highlighted in our presentation, so that's remote sensing for sure, but then also a close collaboration with other federal agencies. So, for example, the U.S. Forest Service, who owns the majority of forests, they do track their activity currently. However, that's also dependent on NEPA, the

National Environmental Protection Act.

So if action requires a NEPA decision, then it gets tracked. And if it doesn't, then it doesn't get tracked. And so then we have to rely on other means like remote sensing to get it. And so changes to NEPA will also affect our ability to track land management activity on federal lands.

CNRA DEPUTY SECRETARY HANSEN: I'll just --

CDFA DEPUTY SECRETARY JAMESON: The cropland site. Sorry, Amanda. I didn't mean to cut you off. We are reliant on the National Agricultural Statistical Survey that is done by USDA, and that's a voluntary survey that happens every five years. And so, it's -- and it really only asks farmers about a couple practices, cover crops and compost applications. So it is an area where we don't have a lot of information for agriculture across the state, except where we've actually funded projects.

CNRA DEPUTY SECRETARY HANSEN: And I'll just quickly add to that to say that at the Resources Agency, we've worked really closely with federal land managers over the years and built strong relationships. As mentioned -- as you mentioned, they're the largest landowner in the state. And we are really very concerned about the impacts of staffing and budget cuts to our work in this space. So, we're monitoring it very closely and

are quite worried about what the implications will be for our work to build the health and resilience of our lands.

DEPUTY EXECUTIVE OFFICER SAHOTA: And, Board Member Shaheen, this is Rajinder Sahota, Deputy Executive Officer. I just want to note that we did enter into a first of its kind significant contract for remote sensing. Right now, those satellites will by focused on methane, but we have the option to also purchase other natural and worklands data to be able to monitor more comprehensively with our own contract and own access to that remote sensing technology. We can also share that data with other states as they need it.

BOARD MEMBER SHAHEEN: Well, thank you for this educational items. It's very eye opening and I wish you all the best with the collaborations with the federal government, because they are a strong landowner in this State and as well as getting the funding we need to work with them.

BOARD MEMBER TAKVORIAN: Thank you.

I'm going to call on Board Member Guerra.

BOARD MEMBER GUERRA: Thank you Acting Chair. Appreciate the opportunity to speak.

First thank you staff for a great presentation here and also to the past Board members who engaged in ensuring the natural and working lands are partners.

My comments are directly on the agriculture. One, Sacramento -- the City of Sacramento, you know, is (inaudible) in our organic waste diversion process with one entity that's (inaudible) and also -- is that better right there? Okay -- very much. Okay. Thank you.

So, we're very proud of that effort that's happening already with graze land, and see -- and looking forward to future successes as that -- as that program grows with our organic waste diversion on a municipal side.

My questions or maybe more they're comments and directions here is, one, I think the comment that was made during the public comment period about maintaining the working value of agricultural land is essential in -- if we're going to -- I know there's a lot of concepts about air capture for carbon purposes. We're looking at a lot of technology. But I think old school technology of trees capturing carbon, you know, and particularly if they're agriculture, and California and this region here in the great Sacramento Valley has been doing a lot of through new its walnuts, through it's almonds, through its grapes, and many other products.

But what I don't see here and -- is a recognition on addressing their needs as part of the natural working product of agriculture. So once we prune those trees,

right now, the concept is that we -- that we have to -- that we burn them and we regulate those burn permits. The other concept is that we require farmers, or farmers will have to pay to load those up on a diesel truck and then shift them to composting. So composting has a benefit. And it works when we're using organic waste on the municipal side with say natural gas vehicles or cleaner vehicles, where there's already a system in place.

But on the agricultural side, I think this is a significant challenge. And I haven't heard in this conversation today about biomass utilization and looking at say mobile gasification units that are capturing carbon through biochar, and the great work that UC Davis is doing on their biochar database system, and looking at that component, because I do believe that if we can assist farmers in looking at both a cost neutral, if not a revenue source, to maintain their working value of their lands, then we can encourage more of the production of food here in our region.

And so, one, I do want to thank Undersecretary Virginia Jameson for the conversations we've had with Secretary Ross on this, but can maybe Undersecretary, if you can maybe discuss where this role fits and why we need to move forward much more aggressively, in my opinion, with biomass utilization, not only for agriculture, but I

think the benefit in the forestry areas, where it's difficult to move numbers of vehicles in and out, and being able to process that. So Undersecretary, if you -- if you could comment on that.

CNRA DEPUTY SECRETARY HANSEN: Well, I'm Deputy Secretary.

BOARD MEMBER GUERRA: Deputy Secretary.

CNRA DEPUTY SECRETARY HANSEN: Thank you for the promotion, but --

(Laughter).

CDFA DEPUTY SECRETARY JAMESON: -- I can't accept.

BOARD MEMBER GUERRA: It's a wink to the Governor's office, you know.

CDFA DEPUTY SECRETARY JAMESON: I think one reason that we haven't been discussing things like that at this meeting is that we're focused on nature-based solutions and some of those processes start to leave that realm, but I'll defer to my CARB colleagues for more detail.

ISD CHIEF BOTILL: Yeah, happy to and thanks for the remarks Board Member Guerra. So again, Matt Botill. So as Deputy Secretary Jameson mentioned, there is this confluence of nature-based strategies and what we typically refer to as more engineered carbon removal

solutions. And that confluence happens when we talk about things like agricultural biomass or forest biomass and finding ways to engineer systems that help support the long-term storage of that carbon in forms of underground sequestration or long-lived products for instance.

And on the topic of agricultural biomass utilization, one of the things that I'm excited about and looking forward to working on more discretely, as we move forward on tracking overall carbon stock changes in California and understanding the impact of these strategies on carbon in the agricultural system and forest systems, we are also going to be embarking under our authorities under AB 1757 and SB 905, which is around carbon capture, utilization, and storage and carbon dioxide removal approaches to quantify the carbon removed from things like biomass gasification and others to help us in our long-term march towards carbon neutrality, so, very much on the radar.

In fact, right now, we are working, as part of the administration to secure some additional resources for SB 905 work with the Legislature so that we can have the staff to be able to do the technical evaluations on things like biomass gasification for carbon removal purposes.

BOARD MEMBER GUERRA: Well, thank you. And I think this is probably where I disagree as a Board member,

because I don't think it's a -- even when we process compost, there's some engineering that gets involved in that. And I know that, because almost all of the landfills are in my council district. So I'm very familiar with trash talk. Let's put it that way.

(Laughter).

BOARD MEMBER GUERRA: That's a dad joke here today.

But the point here is that, in fact, when we are looking at, and I want to thank the good work of the Sacramento Basinwide Air Pollution Control Council - we'll just use BCC for short - is that the biochar going back into the soils and managing the soils I think is an -- is a direct nature-based solution, because we're looking at maintaining the success of those soils as part of that process.

So I would -- I would argue, and if you say that's on the edge, I would say it's right inside the scope of what we're trying to do is manage our working lands and making sure that our working lands maintain healthy standards. And there are different ways through composting, but also through additives like biochar that maintain the quality of that soil.

So I'll leave those, Acting Chair, as my comments. And my directive, or at least as one Board

member, is to focus on biomass utilization as part of our working lands -- natural and working lands strategy.

BOARD MEMBER TAKVORIAN: Thank you. Board Member Lock Dawson.

BOARD MEMBER LOCK DAWSON: Thank you and great report. I love natural lands management. That's my background. So it's really interesting to me.

I have a couple questions, so I want to better understand the work. I understand, you know, it's a balance of -- or the entire calculus involved sequestration and also emissions, right, and how we -- how we balance that out.

But two questions. On the slide on page six, we've got a data point from 2022 and then it's extrapolated out to what we're -- our targets are for 2045. Is that our only -- is that our only base line we have. Like Dr. Shaheen, I love me a good longitudinal study. Is there anything that shows prior to 2022 that --

ISD CHIEF BOTILL: I'm happy to take that one and maybe my boss sitting on front of me will also want to add into this. So the slide six is -- she's -- slide six is an extract from the 2022 Scoping Plan update that we brought in front of this board a couple of years ago. And it shows the 2022 emissions and then the 2045 emissions.

We have thousands of pages of data and analysis

that backup the existing emissions, as well as our projections going forward on what those emissions could be under our carbon neutrality scenario. So, yes, happy to really, you know, dig in with you separately, if you'd like on kind of all of our past emissions performance, as well as our projections going forward in the intervening years that we have.

BOARD MEMBER LOCK DAWSON: I would love to see that.

DEPUTY EXECUTIVE OFFICER SAHOTA: Mayor Dawson.

BOARD MEMBER LOCK DAWSON: Yeah.

DEPUTY EXECUTIVE OFFICER SAHOTA: I'll just add that every five years when we update the Scoping Plan, we get to go through all of these analyses again. And if there's new tools and data available, we incorporate those into this. Because of the complexity of a system like a biological system across all the natural and working lands, there's still a lot we don't know and a lot we can't model, because of the complexity, but we're trying to do better in every Scoping Plan.

It's really easy -- it's much easier relative to natural and working lands to think about the fossil energy and manufacturing sectors, because you can put a meter on a smoke stack and figure out what's going on. So, what you see on slide six is really focused on that AB 32

inventory, and this was the first time we paired in natural and working lands as a separate component, but showing that both of them play a role when we think about the new targets for 2045.

So, a lot more work to do and we're really excited that the team behind me here has so many excited people to work in this space.

BOARD MEMBER LOCK DAWSON: I'm just excited that you're trying to quantify it. I mean, this is -- this is, I mean, very cool to see. And I guess that -- sort of to Mr. Guerra's point, you know, what -- how -- what drives -- what exigency of -- what drives the -- our targets and our priorities, right? So like if you're looking at slide 14, we're talking about 17 -- AB 1757, there's targets there to, say, reduce wildfire, and that will be -- that will help with this, right?

So the idea is what -- how do we know -- what do we know about the lands contribution, the various lands contribution, either to sequestration or emissions, right, so -- and I think that would inform what our priorities would be. Like, this is just a kind of obvious thought, but is that true?

DEPUTY EXECUTIVE OFFICER SAHOTA: That's very true across multiple statutes related to climate. Since the AB 32 statute was passed in 2006, we are directed to

look at the larger sources of emissions, and in looking at those larger sources of emissions, the technologically feasible and cost-effective policies to address those emissions.

And so you saw the slide with all the targets for the different working land types. And within those, there are going to be embedded very discrete actions, whether it's drip irrigation, or sustainable management, or other kinds of policies on those different landscapes. Every single one of those is looked at from that lens of how much can we reduce if we deploy this policy on this landscape, and what is the net benefit in terms of reductions that we get.

As Dr. Cliff had said, when we look at every one of these policies across State agencies, we have to look at things like, you know, what are the benefits to the air quality, benefits to the environment, what are the job benefits, what are the other benefits and costs related to taking that action, and what is the cost if we don't take that action, because there are new data emerging, even from the fires earlier this year in Southern California about the billions and billions of dollars, hundreds of billions of dollars worth of damage. And if we don't get some of these sources under control, we're going to see those other values of inaction continue to increase for

consumers.

BOARD MEMBER LOCK DAWSON: Yeah. Thank you. And I do say -- one of my favorite books, it's an old one, but a good one, it's called *Nature's Services*, and it's all about quantifying what -- how much money nature's service can give us and how much we save. So anyway, appreciate that. Thank you so much.

BOARD MEMBER TAKVORIAN: And Board Member Hopkins.

BOARD MEMBER HOPKINS: Thank you so much. A couple quick comments. Number one, I totally want a "Big Soil Not Big Oil" bumper sticker. That's the best slogan I've heard all day. And number two, you know, I know there's often a kind of tension between urban California and rural California. And I am so proud to serve on a board with urban colleagues sitting next to me who are seeking up for natural and working lands. Board members -- thank you to Board members Dawson and Guerra for their remarks and I agree wholeheartedly with them.

A couple of questions for staff. You know, when we're looking at forest-based carbon sequestration, I'm wondering if we have data by ecosystem type about both sequestration and emissions, so looking at the type of forest?

ISD NATURE-BASED STRATEGIES SECTION MANAGER

MORENO: Hi. Yeah. Thanks for the question. So we could technically pull that sort of information out, but that's not an exercise that we've done, so that's not information that's currently available. I will say that how we do this is actually by tracking stocks specifically and not tracking all of the emissions individually. We do do that for some sources of emissions, like wildfires specifically, and our modeling can get to like gross net primary production, so the amount of carbon that goes into biomass.

However, this is to say we can't currently pull out all emissions from lands, because we track specifically stocks, which is the net change from sequestration emissions.

ISD CHIEF BOTILL: And I'll add too that one of the introductory slides, I think it was the second one, shows the different landscapes that we're tracking the ecosystem carbon across. And there is some kind of fluidity between these landscapes. And so even just drawing those boundaries can be a little challenging, but the team works really hard to pull in as many data sources and different modeling efforts to be able to say, okay, across each of these landscapes what are the carbon stocks within them and how are they changing, over time.

And as we move forward into future scoping plans,

we certainly expect that our ability to kind of project forward the impacts the climate change and land management action will have on those carbon stocks will improve and well get more granular information at different regional and local scales associated with how lands will adjust and adapt to climate change and our actions.

BOARD MEMBER HOPKINS: It seems like it would be really helpful to have the data, you know, broken out certainly by forest type, because then we can actually utilize that to prioritize the higher sequestering, you know, areas, and then also track the changes over time, because as we do see climate change, as we see, you know, fire regimes also alter landscapes, sometimes for instance you'll go from an oak woodland to a chaparral, or maybe there is, you know, a decrease in kind of prevalence of our coastal forest -- redwood forest ecosystem.

One thing that I just wanted to flag for a potential follow-up is I know Save the Redwoods League was actually just across town over at the Natural Resources building asking for $8 million to conserve 1,500 acres of redwood forests in my district, so very much on point, has actually done some work with Humbled State regarding carbon sequestration, capacity, and redwood forests. And they actually have in situ measurements taking place throughout the state.

So if you're not aware of that program, I would love to put you in touch with their new science director, because it's very exciting and I think it can help prioritize conservation efforts.

The next one is about -- question is about the, "Big Soil Not Big Oil", which is who gets credit for compost? You know, I'm familiar with the Advanced[SIC] Manure Management Program, which has been very successful in north coast dairies. But my understanding is that the farmers kind of get credit for the -- or the program gets credit for the methane emissions reductions, but not for the subsequent application of compost onto working lands. And we do know that, you know, working lands, right, you're actually sequestering more carbon in the soil, in addition to actually decreasing water use, because you actually have a greater, you know, kind of water content ability to hold the water in the soil, which is great for drought resilience.

So is there -- like, do we have data and can we capture that, which then I think also would help us advocate for funding for that and something like GGRF?

CDFA DEPUTY SECRETARY JAMESON: That's a good question. I'm not exactly sure how that works out in our various quantification methodologies for say our AMMP Program, which has received GGRF funding. It may depend,

if they've also selected as a practice applying that manure compost somewhere else, so I'd have to get back to you and talk to staff.

BOARD MEMBER HOPKINS: Yeah, it would be great to see. And I guess another question is sort of like do we actually have quantitative data around specifically the application of compost, whether that is being used for row crops or whether that is being used for grazing land. I know we've had some pilot programs in the North Coast with Albert Straus trying to quantify this on, you know, rangelands. And I know that with perennials, you know, perennial grasslands, it's sort of an enhanced carbon sequestration compared to annuals. But just wondering if you have any information and data on that. And if that can help again drive our funding decisions into the future.

ISD NATURE-BASED STRATEGIES SECTION MANAGER MORENO: Yeah. Thanks. So composting on all kinds of lands is definitely something that we're taking into account. So, composting benefits on different types of landscapes is something that we've been looking into for a number of years now, because that -- obviously, there's a lot of interest in that. So, specifically speaking to composting on rangelands, yeah, it looks like that there are benefits under certain circumstances, but that's not

universal, and necessarily beneficial all across the state. And so we're actively looking at that science as it evolves.

However, yeah, compost is a very important part of our strategy, both for the organic targets that we have and just the healthy soils programs, but then all of our natural and working land nature-based strategies or solutions will probably require some form of compost, if that's urban greening, or, you know, whatever else, so, yeah.

ISD CHIEF BOTILL: And I'll add too that being able to track the application of things like compost in agricultural systems is actually one of the big challenges that we have in front of us and one of the things that our team is going to be working on really closely with Department of Food and Ag, CalRecycle, CNRA, and others. And this -- you know, this next step on implementation of our nature-based strategies includes understanding how much is actually happening across California in our various different systems and how effective that is being. And we mentioned in the staff proposal how -- or the presentation how challenging this can be because you're talking about a lot of actions that individual producers are doing sometimes voluntarily without any incentive support, without any actual dollars, or reporting, or

anything along those lines.

And so, we -- we're working on this problem, but it is big one to try and better understand what those kind of non-State funded actions are in this space, so that we can incorporate that into our overall accounting of greenhouse gas changes over time, as well as our climate strategy and are always open to suggestions on other data sources that might exist, either in the academic community or in the NGO space to be able to help build up our database of, you know, progress tacking over time and what other strategies we can do.

The only other thing that I will mention is that we did get a decent push here from the Legislature in 2022 with the adoption of AB 1757, which gives legislative requirements for us to work hand in hand with CNRA, and CDFA, and others on tracking these outcomes. And so we're in that process right now of working with them on creating methods for tracking statewide outcomes of actions like compost application in trying to do this data assessment now. So very much on the forefront and something that we're working on over the next couple years.

BOARD MEMBER HOPKINS: Just my final through is we really cannot solve this without working just absolutely hand in hand with CDFA and Natural Resources, because, you know, it really has to be a whole systems

perspective. And it would be great to think about how our Board can also liaise more closely, you know, with those agencies, with our conservancies, with WCB. Are there ways in which, you know, we can partner and support their work as much as we can.

BOARD MEMBER TAKVORIAN: Thank you.

Board Member De La Torre.

BOARD MEMBER DE LA TORRE: Thank you. This is great work. I get asked a lot about (inaudible), why are we (inaudible) and I just I want to emphasize the work it took just to get here.

For many years, (inaudible) the timeline that's here wasn't mentioned in the Scoping Plan in 2017. I know that there were efforts to bring us all together, so I'm loving that we're -- our sibling agencies are participating here today, but that took a while to make that happen. I know during the Brown administration, there were efforts to do it. It didn't really happen until the Newsom administration. So, we were able to come together as agencies and row in the same direction. And so, we can't just snap our fingers. Obviously, there are these two other agencies that major roles in this.

And so it's important to understand that that process took awhile. And then we didn't establish our first target until the most recent Scoping Plan. So,

that's why, that's the answer. And now that we have the authority, now that we have the collaboration of all three of us, now we can -- we can step on the gas and -- or electricity and really speed up.

So I just want to thank our two sibling agencies for being here with us today, for helping us to get to this point, where we are all working together to make this happen. The people of California will be better for it.

Thank you.

BOARD MEMBER TAKVORIAN: Thank you.

Dr. Tania Pacheco-Werner.

BOARD MEMBER PACHECO-WERNER: Hi. Yes. I just wanted to see if there was any comments or opportunities that we can see about how to gain further insights on the strategies and be able to delineate strategies being used by our tribal partners. I know that tribal partnership was mentioned about needing to be strengthened during the Scoping Plan on a variety levels. And while it might not be CARB, is there also opportunities for some other agencies to help us get that data to understand those strategies specifically and start to try to get a real science around how these strategies are uniquely beneficial or have opportunities themselves in terms of our goals?

ISD CHIEF BOTILL: Thanks, Board Member

Pacheco-Werner. So I'll start from the kind of assessment side and then I'm not sure if one of my colleagues from CNRA or CDFA wants to also layer in. But I think as we are moving forward and improving our analytical ability on the land management actions that are occurring and the outcomes from those land management actions, we can certainly, and would welcome any feedback from you as well, work to have more tribal consultation efforts under our tribal consultation policy to understand how tribal governments are maybe already doing various actions, like cultural burning or other land management actions that we would want to fold into our tracking of actions over time.

We had a number of tribal consultations in the Scoping Plan process to help kind of improve our recognition of tribal practices. And this is maybe where I'm going to see if Amanda or Virginia want to add into, because I know that was a big part of the work on their AB 17 -- 1757 nature-based strategies process.

CNRA DEPUTY SECRETARY HANSEN: Yeah, I'm happy to add in here. It's a really great question and I guess I'll just point to a couple of areas of focus for the Resources Agency. One is just, you know, as we develop the first climate strategy for our land sector, we did very significant consultation with California Native American tribes. We also recognize very strongly and

clearly that the ways in which tribes care -- steward their land are 100 percent aligned with the goal of our nature-based solutions agenda, which is building the health and resilience of our lands.

So I think it was in -- I can't remember if it was last year's budget or the year before, but we created a new program, our tribal nature-based solutions program and plugged a hundred million dollars, which it's been wildly successful. There is another 10 million available through the climate bond that I mentioned earlier. So just to say that there's a lot of collaboration with tribes in our nature-based solutions agenda, and we're really grateful for it.

BOARD MEMBER PACHECO-WERNER: Yeah. And just to clarify, so is that -- is that investment, are you also going to be gaining data and insights about those strategies that we could also think through more holistically, as we think about those strategies and map them? You know, can we -- are -- is there an opportunity to be able to delineate these are tribal strategies as well?

CNRA DEPUTY SECRETARY HANSEN: That is a really good question. And I don't want to trip over myself here, so let me just sort of commit to getting back to you. There is certain data that we -- that there is some

sensitivity around, as it relates to tribes. And so we're very mindful of that. I think we're also very interested where we can in getting data -- getting information about what practices are being done and what the benefits of those practices are. So broadly I'll answer, you know, we try to thread that needle between being respectful of data privacy concerns and being able to learn from one another.

That's my top line answer and I can get back with more specifics, once I've coordinated with my tribal advisor, who is very deep on that question.

BOARD MEMBER PACHECO-WERNER: Thank you so much.

ISD CHIEF BOTILL: And, Board Member, maybe I'll add too that, you know, as an example of where we've been able to work collaboratively with tribes and collect data. So our forest offsets program does have a number of tribes that have participated in that program. There's over a billion dollars in offset value that's been generated for tribes, and that is across the nation, but there are a number of tribes here in California that have also utilized that program for forest stewardship. And, you know, in that example, we have really detailed data of the forest managements, the carbon stocks, and the overall greenhouse gas benefits of the program, because we were able to design a program as an agency that worked for the benefit of tribes, but also allowed us to have access to

some of that data on their land management and forest carbon changes. So it's just an example of an area that we've been able to kind of work collaboratively and get that information.

BOARD MEMBER PACHECO-WERNER: Thank you so much. Thank you. That's all my questions.

BOARD MEMBER TAKVORIAN: Thank you. And last I think is Board Member Ortiz-Legg.

BOARD MEMBER ORTIZ-LEGG: Thank you, Madam Chair. Thank you so much for the report. You can tell that everybody is very interested in this topic. I mean, we do cover a lot of land space in California, so we have tons of opportunities. I would be remiss with not inviting you down to Cal Poly San Luis Obispo, where our sustainability and farming group are working with the Carbon Cycle Institute on their Carbon Farm Plan. And so maybe you've already been there. Maybe you're already working, but I know that so much of their carbon farm plan, which looks at both range, crop, riparian, all the various types of lands that -- into helping us create climate action plans. So I just wanted to put that invitation out.

Thank you.

BOARD MEMBER TAKVORIAN: Thank you very much.

Okay. So we're going to close this item now. Thank you again to staff for a really important report and

one that I think we'll take us far in our climate change work, and to the Board members for your great questions.

So we are -- we're going to move to open comment -- open comment for those who wish to provide a comment regarding an item of interest within the jurisdiction of the Board that is not on today's agenda. The clerk will call on those of you who have submitted a request-to-speak card. And if you're joining us remotely, and wish to comment, please click the "Raise Hand" button or dial star nine now.

Thank you.

BOARD CLERK LEVRINI: Thank you, Ms. Takvorian. We currently have six in-person commenters starting with Evan Edgar.

EVAN EDGAR: Good afternoon. Evan Edgar, Edgar Associates. I'm an engineer for anaerobic digestion and stand alone for the urban sector. We make renewable natural gas, which is carbon negative, both private and public, and as part of SB 1383 to get 75 percent of the organics out of the landfill for methane. This is a true circular economy. We take the digestate from anaerobic digestion. We make compost in carbon farm. And we make the RNG to put back in the same truck. So we're carbon negative today. We're net zero today. We're doing a great job today if you phase out diesel and phase out

landfills.

I'm rejoiced that CARB withdrew the ACF for the private sector, because the private sector can go on and be carbon negative, be net zero, and be near zero on NOx. And we don't have to recarbonize with ZEVs. ZEVs would have been highly expensive and not appropriate for the heavy-duty sector. And so we'll keep on going with the wastewater, landfills, anaerobic digestion to fulfill the mission to stay carbon negative and not to recarbonize their fleet.

Eight thousand trucks are private sector and carbon negative of minus a hundred. And it's a great program. The other 8,000 public is sector. They're still stuck with heavy-duty. And when the advanced clean fleet was adopted two and a half years ago, they're supposed to be public sector on the future of biomethane. It never happened. What happens to biomethane? We're supposed to put it in a PUC pipeline and take it to Fresno or some place. We make biomethane on-site, our own use, either to be carbon neutral or to make RNG. So when is that workshop?

The big question is affordability is coming up. And what we're doing now is very affordable, with the garbage rate is about 35 to 40 bucks a household per month for the three-car system for 1383. The second we do zero

emissions in public sector with zero waste, we're talking about over a hundred bucks a ton per household per month. So it's going to triple the rate. So in today's world of affordability, let's have the public sector stay on RNG, and I look forward to the workshop that never happened.

BOARD CLERK LEVRINI: Thank you.

Next speaker is Pascale Warren.

PASCALE WARREN: Good morning, Chair Randolph and members of the Board. My name is Pascale Warren. And I'm here on behalf of the Sac Metro Air District. First, I want to thank Councilmember Guerra who's also one of our Board members for campaign our Clean Cars 4 All program.

The Sac Metro Air District has run the most comprehensive Clean Cars 4 All program in the state, because we have built it around the culture of customer service. We offer mobility options beyond just rebates for electric vehicles. Our program includes home and public chargers. Our program includes home and public charging, electric bikes, car sharing, and transit. Soon, we will also be offering zero-emission motorcycles and even more flexible charging options.

We believe this holistic model is key to achieving a new paradigm of mobility, one that is built on strong consumer service -- consumer protection measures and local partnerships. These partnerships make our Clean

Cars 4 All program stand out. The relationship puts our local utilities and transit, dealership, e-bike vendors, charging network providers, and numerous community based organizations allow us to adapt Clean Cars 4 All to meet community needs and amplify impacts while removing barriers.

Moving funds to CC4A and sustaining funding is absolutely necessary to build on these efforts and create a lasting shift to clean transportation solutions. The Sac Metro Air District has and will continue to collaborate with other program administrators to offer complementary services, such as financing assistance, and scale up benefits to our participants whenever possible. We believe that facilitating better integration between Sac Metro CC4A and the statewide Drive Clean Assistance Program would ensure that all participants seamlessly access all services.

Lastly, we believe the vehicle scrap requirement hinders participation. We note that the state has never asked of EV rebate recipients to scrap a vehicle, and that the statewide e-bike incentive program also lacks a scrapping component. Thus, Clean Cars 4 All should be no different. Thank you for the opportunity to make these remarks.

BOARD CLERK LEVRINI: Thank you.

Vitaliy Arnaut.

VITALIY ARNAUT: Good morning, everybody. My name is Vitaliy Arnaut. One of the owners of the two local dealerships here in Sacramento and Folsom. So one of the dealerships that we have is in South Sacramento. And I wanted to talk about Clean Cars 4 All program.

We believe that it's a great program, especially for those that have low income and that live in disadvantaged areas. This program -- we see the need for this program on an everyday basis. So, at our dealership, we have at least 250 credit applications from the consumers that make less than $40,000 a year. And it's devastating to see that most of them don't qualify for a good electric vehicle. So, they -- they're forced to either buy a regular vehicle that is older and high miles, but they don't even have enough down payment. And a lot of times they have to go to, you know, buy here, pay here places, and then you know how that goes.

So I think there's a huge need for CC4A. And also there's not a problem that we see with our program that it takes way too long to get the customer approved, 60 to 90 days. That is absolutely unacceptable. It cannot work, because those customers they work every day. Their car breaks down, they need a car now, so they cannot even use that program.

So we, as you know, experts in that space at the dealership, we can get those customers prequalified within minutes. We use currently IRS Clean Energy program, which is great help for our customers. And a lot of those customers that couldn't qualify for a vehicle thanks to that program do qualify, so we would like to offer, you know, our help to maybe tweak the system so we can go those customers approved faster.

Thank you.

BOARD CLERK LEVRINI: Thank you.

Afrack Vargas.

AFRACK VARGAS: Good afternoon. My name is Afrack Vargas. I'm with K Street Consulting. I'm a public affairs consultant, I'm a lobbyist. I am working -- I do some work to support the work that Vitaliy is doing, who is a private company owner, private business man. He's not the president of an association. He wasn't recruited to be here. Heck, his stores aren't even yet part of the Clean Cars 4 All program. He's looking forward to being an approved vendor this summer, and he's still looking to -- one thing he didn't mention is to expand his business. So he is an expert in this demographic that qualifies.

And given what is probably going to happen at the federal level with regards to that $4,000 EV credit, now

is the time for you to respectfully continue this program, especially in these districts. These are, of course, identified for a reason and Vitaliy is making his business here. He is making this investment and he is an expert in this demographic. And unfortunately, you know, about the 250 people that come to qualify to try to purchase a car, many in this demographic who this is the first time they've ever come to a dealership to purchase. They've never done things like organize their taxes and their employment records. And this is the first time they experience it, so oftentimes they're working as kind of like financial planners, supporting, helping them, organize and letting them know.

So we really, really respectfully request that you continue this program, especially in light that the IRS credit is probably going to go away. There's going to be a lot of confusion in this area and we would really like to work with you, with your staff. We'll work with the local air board to share Vitaliy's vast experience in this area. And we respectfully request that you continue to fund this program.

Thank you very much.

BOARD CLERK LEVRINI: Thank you.

Richard Falcon.

RICHARD FALCON: There's a button there. Nobody

told me about the button. I'm here to advocate for CARB to move funds to the California Clean Cars 4 All Program, and especially within the Sacramento Air Quality Management District, a pivotal initiative that not only addresses environmental concerns, but also promotes equity in public health.

In Sacramento, since the program's inception, we witnessed tangible benefits. While the program faced challenges in meeting the participation goals, it has still facilitated replacement of numerous high-polluting vehicles with cleaner alternatives. This transition has contribute to improved air quality and reduced greenhouse gas emissions in our community.

Statewide, Clean Cars 4 All has, as you know, (inaudible) Californians with approximately 88 percent (inaudible) populations, low-income and disadvantaged communities. Notably, the program has become -- has been effective in reaching Latinos communities. For instance, I understand that in the San Joaquin Valley, targeted outreach efforts have led to significant participation from Latino residents, demonstrating the program's capacity to serve the most impacted by transportation-related pollution.

Furthermore, Clean Cars 4 -- Clean Cars 4 All addresses multiple barriers to clean vehicle adoption. By

offering incentives, the Program makes zero-emission vehicles accessible to families who might otherwise find them financially out of reach. It also provides support for home charging infrastructure or prepaid charging cards ensuring that participants can effectively utilize new vehicles.

In conclusion, Clean Cars 4 All is more than an environmental program, it is a catalyst for social equity, economic relief, public health improvement. Continued investment in Clean Cars 4 All is essential to ensure that all Californians, regardless of income or background, can participate and benefit from our State's transition to a cleaner, more sustainable transportation future.

Thank you for your time.

BOARD CLERK LEVRINI: Thank you.

Kimberly Burr.

KIMBERLY BURR: Hi. Thank you. My name is Kimberly and I'm from Sonoma County. And I want to just than you all for your very important work. I really, really support all the stuff that you're doing. My concern is climate change and I'm familiar with the International Panel on Climate Change's recommendations. They basically call out that not only do we have to reduce global emissions, we have to sequester huge, vast amounts of CO2 and other greenhouse gases. And they also call

out -- their amazing cadre of scientists have pointed out that trees are so important to the equation. And so they have actually said that we should be saving all our forests and growing more.

So I feel like that there -- maybe we could put a lot more emphasis on that in the work that we're doing at the State level. The analysis that I've seen, and I'm not a scientist, so I probably got it wrong in some ways, but doesn't account for all the other -- the inputs of removing trees. There's a lot of inputs that go into logging, and thinning, and fuel reduction. And so, I would encourage that these equations look beyond just an aerial view, but actually look at, you know, what are some of the other contributions to the climate problem that come from big logging projects.

And I know the federal government owns a lot of our acres of forests, but private ownership in California is 40 million acres are forested in private ownership. And that is something the State has some say over and can incentivize, you know, the growing of these forests. So I encourage you guys to (inaudible) -- to say, but thank you all for listening. And thank you. I'm sorry you had to stay late, but thank you all.

BOARD CLERK LEVRINI: Thank you.

We currently have three commenters with their

hands raise in Zoom, starting with Brian Kolodji, Thomas Becker, and Kathy Saechou. Brian, I have activated your mic. You may unmute and begin.

BRIAN KOLODJI: I -- can you -- I hope you can hear me. My name again is Brian Kolodji. I'm with Kolodji Corporation and I have seven direct air -- enhanced nature-based direct air capture patents, and we have built these facilities -- three facilities in Kern County California, almond orchards, where we're showing great success. The University of California and USDA published articles in Agronomy Society of America, where we -- our target is to capture 10 tons of CO2 per year per acre, and with a million tons of -- a million acres of almond crop, we're targeting hopefully a capture of 10 million tons a year, which is exceeding the Governor's target for carbon capture using trees by enhancing the biosphere of crops.

And we again are looking for CARB to lead the way by allowing greenhouse gas capture with biosequestration using crops by enhance -- using -- and supporting enhanced nature-based technology as promoted by U.S. DOE after 40 years of research showing these -- this data, and USDA publications by Dr. Bruce Kimball.

So I will send my comments in writing again with copious backup documents, and hoping that greenhouse gas

capture and the permanence of it is doc -- is allowed with CARB's greenhouse gas calculators. Currently, we're -- we actually were funded by CARB -- not CARB, but by California Department of Food and Agriculture. And we're looking for additional funding. And we need -- we need the support by CARB and biosequestration as promoted in their Scoping Plan.

Again, thank you for your time and for listening. Brian Kolodji with Kolodji Corps. Bye-bye.

BOARD CLERK LEVRINI: Thank you.

Thomas Becker, I have activated your mic. You may unmute and begin.

THOMAS BECKER: Hi. Can you hear me?

Hello.

BOARD CLERK LEVRINI: Yes.

THOMAS BECKER: Yeah. Okay. Today's Senate vote ends the ACC II Regulation. CARB Board and staff intentionally refused to prepare an analysis of reducing VMT by 50 percent as and alter -- as an alternative to the ACC II Regulation. Reducing VMT by 50 percent from 2014 baseline would achieve a greater result than what the ACC II would have achieved. CARB appears to have violated CEQA by intentionally refusing to analyze alternatives to the ACC.

It appears CARB Board and staff intentionally

refused to prepare analysis of alternatives for the purpose of obstructing alternatives from being considered. This appears to have been done to thwart any challenge to the ACC II Regulation. In short, there are alternatives to the ACC II Regulation. It appears CARB thwarted the study of those alternatives to protect CARB's pet project, and I certainly hope that this issue is presented to the federal Department of Justice, so your activities in thwarting alternatives can be investigated, because I believe not only did it violate CEQA, it violated NEPA, and it appears to have been done in order to basically obstruct alternatives to ACC II from being even looked at, and then the whole thing was submitted to EPA containing what appears to be false and misleading information.

Thank you very much.

BOARD CLERK LEVRINI: Thank you.

Kathy Saechou, I have activated your mic. You may unmute and begin.

KATHY SAECHOU: Good afternoon, CARB Board members and staff. My name is Kathy Saechou with Valley Vision. Valley Vision is a civic leadership organization working towards livability and economic well-being for all residents in the greater Sacramento region. On behalf of Valley Vision, we express our support for continued funding and enhanced effectiveness of the established

Clean Cars 4 All Program in Sacramento.

As implemented in the Sacramento region, Clean Cars 4 All is currently the most comprehensive program, offering various clean mobility options. The Driving Clean Assistance Program has similar goals and provides Clean Cars 4 All administration in areas surrounding Sacramento County, but also financing assistance, which provides a no-scrap option and low interest rates statewide, including within Sacramento County.

Currently, program participants in Sacramento County who would like financial assistance need to enroll in both programs. It is currently difficult for applicants to navigate both programs, especially since Clean Cars 4 All grants have liquidation deadlines and securing equitable financing may take months. We also have seen that vehicle scrap requirements are a barrier to program participation.

For these reasons, we urge CARB to consider adding flexible liquidation and expenditure deadlines for participants pursuing the two programs to allow sufficient time to complete both. We also ask that CARB facilitate information sharing and aligning eligibility requirements between both programs, so participants can seamlessly access all of the services CARB is funding.

We ask that CARB work with the Legislature to

ensure consistent funding for both of these programs into the future and to avoid any lapse in operation. This will help yield widespread adoption of clean mobility options in all of our communities.

Thank you for the opportunity to comment.

BOARD CLERK LEVRINI: Thank you, Kathy. And that concludes our commenters for open comment.

BOARD MEMBER DE LA TORRE: I'd like to make some comments on some of the public comments that were made regarding Clean Cars 4 All going to action. It's not on the agenda, so -- but I would like to just read out our resolution from November on our (inaudible) -- on number 8. This is the mobility plan resolution from back in November that this Board approved, "Delegating authority to the Executive Officer or their designee to make adjustments, corrections, updates and modifications to the projects included in the proposed FY 24-25 funding plan consistent with Board direction."

"Draft -- skipping ahead a little bit. "Draft, negotiate, amend, extend, execute, and terminate grant agreements." Ending a little further within item number 8, "Allocate funding received from new sources to augment project categories authorized in the funding plan. Scale back projects, if needed." So that's on number 8.

And then in the second, "Be it further resolved,

that in the proposed FY 24-25 funding plan with provisions to make modifications where necessary and shift -- or shift funding as needed."

I think this Board was very clear. We know going into the new fiscal year there's zero money for these programs coming from the Capitol. And so, it is time that we make sure that the Clean Cars 4 All programs in South Coast Air District and (inaudible) Air District. Although, they're the newest program, so they're just -- absolutely, that's why I'm mentioned it. Bay Area and San Joaquin Valley, which have run out of funds in this fiscal year, that we, staff, whatever brings -- bring it back, so we can have that follow-up conversation that we discussed back in November, because it's come to pass. Here we are. Thank you.

CHAIR RANDOLPH: Okay. Yes.

BOARD MEMBER GUERRA: Thank you. I think my colleague was very eloquent in speaking on what we did back in November. And I concur with those comments as well. I want to -- want to respond to some of the concerns that I heard through the public comment. And one, to recognize how there is a willingness to serve people in South Sacramento. And where we started Clean Cars 4 All was in South Sacramento in our AB 617 zone. And I -- what -- how timely it is. I don't know if it was

coordinated that way, but looking at our first item, which was our ability to look at the toxic pollution report, and we're able to actually narrow it down to the AB 617 zone, which has -- you know, which has the cancer rates, and the risk of cancer rates.

And so to me, this is -- the fact that we had Valley Vision and the Clean Air Partnership of Sacramento submit a letter to me today about this issue of Clean Cars 4 All, and its funding, and the conflicting programs, I think it's something that needs to be elevated. Those comments came from Breathe California, Sacramento region, Valley Vision, not only Sac Metro Air District, but the Feather River Air District, the Yolo-Solano Air District. And to me, that tells me that, you know, that I'd like to see a schedule, something scheduled to discuss this, so that the public can engage in this. And at the very least, very least recognize that this Board in November did give the Executive Officer authority to respond to these concerns.

So, one, I want to make sure that that -- that that's identified and I want to thank the -- all the constituents of the Sacramento Valley that came in to speak during public comment on that issue.

The second thing I'd -- that was mentioned in public comment, and for the Executive Officer as well, is

we did discuss biomethane as a component when we passed the ACF. There's been discussions by staff about when we're going to have a workshop. I think it's important that we identify the timing of that as well. I'm very proud about the work that the Sacramento Sewer District is doing on biomethane capture and looking at non-combustion sources, such as hydrogen production to look at how do we really maximize, you know, our biomass and biomethane, as a -- as a tool here as well.

So those are my two comments, Chair, and I would appreciate the -- a response from our Executive Officer to the constituents who came out today. Thank you.

CHAIR RANDOLPH: Okay. We are now breaking for closed session, as authorized by Government Code section 11126(e). And it has indicated in the public notice for today's meeting. And after the closed sessions, the Board will reconvene to adjourn.

(Off record: 12:27 p.m.)

(Thereupon the meeting recessed into closed session.)

(Thereupon the meeting reconvened open session.)

(On record: 1:12 p.m.)

CHAIR RANDOLPH: The Board has concluded it's closed session. No reportable action was taken and this

meeting of the California Air Resources Board is adjourned.

(Thereupon the California Air Resources Board meeting adjourned at 1:13 p.m.)

CERTIFICATE OF REPORTER

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 29th day of May, 2025.

JAMES F. PETERS, CSR
Certified Shorthand Reporter
License No. 10063