



South Coast Air Quality Management District

21865 Copley Drive, Diamond Bar, CA 91765-4178
(909) 396-2000 • www.aqmd.gov

VIRTUAL LOCAL GOVERNMENT & SMALL BUSINESS ASSISTANCE ADVISORY GROUP MEETING

Advisory Group Members

Council Member Carlos Rodriguez, LGSBA Chair (Board Member)
Senator Vanessa Delgado (Board Member)
Supervisor Janice Rutherford (Board Member)
Felipe Aguirre
Council Member Rachelle Arizmendi, City of Sierra Madre
Paul Avila, P.B.A. & Associates
Geoffrey Blake, Metal Finishers of Southern California
Todd Campbell, Clean Energy
LaVaughn Daniel, DancoEN
John DeWitt, JE DeWitt, Inc.
Bill LaMarr, California Small Business Alliance
Rita Loof, RadTech International
Eddie Marquez, Roofing Contractors Association
David Rothbart, Los Angeles County Sanitation Districts

Friday, January 13, 2023 ♦ 11:30 a.m.

Pursuant to Assembly Bill 361, the South Coast Air Quality Management District Local Government & Small Business Advisory Group meeting will be held at 11:30 a.m. on Friday, January 13, 2023, through virtual attendance via videoconferencing and by telephone. Please follow the instruction below to join the meeting remotely.

ELECTRONIC PARTICIPATION **(Instructions provided at bottom of the agenda)**

Join Zoom Webinar Meeting – from PC or Laptop
<https://scaqmd.zoom.us/j/92459924491>

Zoom Webinar ID: 924 5992 4491 (applies to all)

Teleconference Dial In
+1 669 900 6833

One tap mobile
+16699006833, 92459924491#

Audience will be allowed to provide public comment through Zoom connection or telephone.
PUBLIC COMMENT WILL STILL BE TAKEN

Phone controls for participants: The following commands can be used on your phone's dial pad while in Zoom Webinar meeting:

- *6 - Toggle mute/unmute
- *9 - Raise hand

AGENDA

Members of the public may address this body concerning any agenda item before or during consideration of that item (Gov't Code Section 54954.3(a)). If you wish to speak, raise your hand on Zoom or press Star 9 if participating by telephone. All agendas for regular meetings are posted at South Coast AQMD Headquarters, 21865 Copley Drive, Diamond Bar, California, at least 72 hours in advance of the regular meeting. Speakers may be limited to three (3) minutes total for all items on the agenda.

CALL TO ORDER

1. Call to Order/Opening Remarks
(**No Motion Required**)

*Council Member Carlos Rodriguez
Committee Chair*

ACTION ITEM:

2. Approval of December 9, 2022 Meeting Minutes
(**Motion Required**)
[Attachment 1]

Council Member Carlos Rodriguez

DISCUSSION ITEMS (Items 3 through 6):

3. Review of Follow-Up/Action Items
Staff will review follow-up/action items identified in the previous meeting.
(**No Motion Required**)
4. Approval of Local Government & Small Business Assistance Advisory Group 2022 Accomplishments and Seek Items for 2023 Goals & Objectives
Staff will present and seek approval on the 2022 accomplishments, as well as seek items to include in the 2023 Goals & Objectives of the LGSBA Advisory Group.
(**Motion Required**)
[Attachment 2]
5. Clean Fuels Plan Update
Staff will provide an overview of the 2023 Clean Fuels Program Draft Plan Update, which proposes continued support for a broad portfolio of technologies funding under the Clean Fuels program in 2023. This Draft Plan Update emphasizes zero-emission technologies for vehicles, off-road equipment, and supporting infrastructure for goods movement applications to create a pathway towards achieving 2037 attainment.
(**No Motion Required**)
[Attachment 3]

*Derrick J. Alatorre
Deputy Executive Officer
Legislative, Public Affairs & Media*

Derrick J. Alatorre

*Maryam Hajbabaei
Program Supervisor
Technology Advancement Office*

6. Update on 2023 Legislative Priorities
Staff will give an update on 2023 Legislative priorities.
(No Motion Required)
[No Written Report]

Philip Crabbe
Sr. Public Affairs Manager
Legislative, Public Affairs & Media

OTHER MATTERS:

7. Other Business
Any member of this body, or its staff, on his or her own initiative or in response to questions posed by the public, may ask a question for clarification, may make a brief announcement or report on his or her own activities, provide a reference to staff regarding factual information, request staff to report back at a subsequent meeting concerning any matter, or may take action to direct staff to place a matter of business on a future agenda. (Gov't Code Section 54954.2)
8. Public Comment Period
At the end of the regular meeting agenda, an opportunity is provided for the public to speak on any subject within the Local Government and Small Business Assistance Committee's authority that is not on the agenda. Speakers may be limited to three (3) minutes each.
9. **Next Meeting Date** – Friday, February 10, 2023, at 11:30 a.m.

ADJOURNMENT

Document Availability

All documents (i) constituting non-exempt public records, (ii) relating to an item on an agenda for a regular meeting, and (iii) having been distributed to at least a majority of the Advisory Group after the agenda is posted, are available by contacting Van Doan at (909) 396-3117 or send the request to kdoan@aqmd.gov.

Americans with Disabilities Act and Language Accessibility

Disability and language-related accommodations can be requested to allow participation in the Local Government and Small Business Assistance Advisory Group meeting. The agenda will be made available, upon request, in appropriate alternative formats to assist persons with a disability (Gov't Code Section 54954.2(a)). In addition, other documents may be requested in alternative formats and languages. Any disability or language-related accommodation must be requested as soon as practicable. Requests will be accommodated unless providing the accommodation would result in a fundamental alteration or undue burden to the South Coast AQMD. Please contact Van Doan at (909) 396-3117 from 7:00 a.m. to 5:30 p.m., Tuesday through Friday, or send the request to kdoan@aqmd.gov.

INSTRUCTIONS FOR ELECTRONIC PARTICIPATION

Instructions for Participating in a Virtual Meeting as an Attendee

As an attendee, you will have the opportunity to virtually raise your hand and provide public comment.

Before joining the call, please silence your other communication devices such as your cell or desk phone. This will prevent any feedback or interruptions during the meeting.

Please note: During the meeting, all participants will be placed on Mute by the host. You will not be able to mute or unmute your lines manually.

After each agenda item, the Chair will announce public comment.

A countdown timer will be displayed on the screen for each public comment.
If interpretation is needed, more time will be allotted.

Once you raise your hand to provide public comment, your name will be added to the speaker list. Your name will be called when it is your turn to comment. The host will then unmute your line.

Directions for Video ZOOM on a DESKTOP/LAPTOP:

- If you would like to make a public comment, please click on the “**Participants**” button on the bottom of the screen.
- A list of participants will appear on the right side of the screen. At the bottom of the list, please click on the grey “**Raise Hand**” button.
- This will signal to the host that you would like to provide a public comment and you will be added to the list.

Directions for Video Zoom on a SMARTPHONE:

- If you would like to make a public comment, please click on the “**Participants**” button on the bottom of your screen.
- A new screen will pop up with the list of participants. Look for the “**Raise Hand**” button on the screen and click the button.
- This will signal to the host that you would like to provide a public comment and you will be added to the list.

Directions for TELEPHONE line only:

- If you would like to make public comment, please **dial *9** on your keypad to signal that you would like to comment.



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LOCAL GOVERNMENT & SMALL BUSINESS ASSISTANCE ADVISORY GROUP FRIDAY, DECEMBER 9, 2022 MEETING MINUTES

MEMBERS PRESENT:

Council Member Carlos Rodriguez, LGSBA Chair (Board Member)
Senator Vanessa Delgado (Board Member)
Felipe Aguirre
Council Member Rachelle Arizmendi, City of Sierra Madre
Paul Avila, P.B.A. & Associates
LaVaughn Daniel, DancoEN
John DeWitt, JE DeWitt, Inc.
Bill LaMarr, California Small Business Alliance
Rita Loof, RadTech International
Eddie Marquez, Roofing Contractors Association
David Rothbart, Los Angeles County Sanitation Districts

MEMBERS ABSENT:

Supervisor Janice Rutherford (Board Member)
Geoffrey Blake, Metal Finishers of Southern California
Todd Campbell, Clean Energy

OTHERS PRESENT:

Mark Abramowitz
Harvey Eder
Moses Huerta
Debra Mendelsohn, Board Member Consultant (*Rutherford*)
Mark Taylor, Board Member Consultant (*Rutherford*)

SOUTH COAST AQMD STAFF:

Susan Nakamura, Chief Operating Officer
Derrick Alatorre, Deputy Executive Officer
Jason Aspell, Deputy Executive Officer
Anissa Heard-Johnson, Deputy Executive Officer
Michael Krause, Assistant Deputy Executive Officer
Daphne Hsu, Principal Deputy District Counsel
Karin Manwaring, Senior Deputy District Counsel
David Ono, Senior Air Quality Engineering Manager
Philip Crabbe III, Senior Public Affairs Manager
Denise Peralta Gailey, Public Affairs Manager
Mark Henninger, Information Technology Manager

Anthony Tang, Information Technology Supervisor
Susan Tsai, Senior Air Quality Engineer
Elaine Hills, Senior Staff Specialist
Derek Camacho, Air Quality Specialist
Van Doan, Air Quality Specialist
Paul Wright, Senior Information Technology Specialist
Aisha Reyes, Senior Administrative Secretary

Agenda Item #1 and 2 – Roll Call/Call to Order/Opening Remarks

Chair Carlos Rodriguez called the meeting to order at 11:30 a.m.

For additional details of the Local Government & Small Business (LGSBA) Advisory Group Meeting, please refer to the Webcast at [Live Webcast \(aqmd.gov\)](https://aqmd.gov).

Agenda Item #3 – Approval of October 14, 2022 Meeting Minutes

Chair Rodriguez called for approval of the October 14, 2022, meeting minutes.

No public comment.

Motion to approve minutes made by Rita Loof; seconded by Vanessa Delgado; approved.

Ayes: Aguirre, Arizmendi, Avila, Daniel, Delgado, DeWitt, LaMarr, Loof, Marquez, Rodriguez, Rothbart

Noes: None

Absent: Blake, Campbell, Rutherford

For additional details, please refer to the [Webcast](#) beginning at 6:20.

Agenda Item #4 – Review of Follow-Up and Action Items

Derrick Alatorre, Deputy Executive Officer, Legislative, Public Affairs and Media, reviewed the action items from the October 14, 2022 meeting, which was to provide links of the Argonne National Laboratory study and Draft Socioeconomic Report in the meeting minutes. Links to the study and report were included in the October 14, 2022 meeting minutes and emailed to the Advisory Group on October 28, 2022.

No public comment.

For additional details, please refer to the [Webcast](#) beginning at 8:10.

Agenda Item #5 – Update on Engineering and Permitting – Online Filing

David Ono, Senior Air Quality Engineering Manager/Engineering and Permitting, provided an update on Online Filing.

Bill LaMarr asked about the volume of online registrations. Mr. Ono referenced slide #3 – Online Filing Activity. Mr. LaMarr asked about the permit backlog and the target of 50%. Jason Aspell, Deputy Executive Officer, Engineering and Permitting, replied that it is currently above 50%. For additional details, please refer to the [Webcast](#) beginning at 23:05.

Rita Loof asked if increased applications are expected due to the transition from the Regional Clean Air Incentives Market (RECLAIM) program and how it will impact the backlog. Mr. Ono replied that pending applications due to the landing rules are being tracked and there are a few hundred pending applications. Ms. Loof asked if the Permit Streamlining Task Force looked at which types of equipment have negligible emissions and stated that could be one way to reduce backlog is to exempt those units from permitting. Mr. Aspell replied that permit exemptions are evaluated through the rulemaking process for Rule 219 – Equipment Not Requiring a Written Permit Pursuant to Regulation II. For additional details, please refer to the [Webcast](#) beginning at 26:37.

David Rothbart asked about the difficulty in developing the online registration program and how it helps in terms of labor. Mr. Ono explained that other teams assist in the program development as they are the subject-matter experts on particular equipment. Mr. Ono explained that as the modules roll out, more complete applications are submitted, which saves permit processing time. Mr. Rothbart also asked if there will be more development of online applications. Mr. Aspell confirmed that there are ongoing developments. For additional details, please refer to the [Webcast](#) beginning at 32:00.

No public comment.

For additional details on the presentation and discussions, please refer to the [Webcast](#) beginning at 9:10.

Agenda Item #6 – Overview of 2022 Air Quality Management Plan

Michael Krause, Assistant Deputy Executive Officer/Planning, Rule Development and Implementation, provided an overview of the 2022 Air Quality Management Plan (AQMP).

Mr. Rothbart commented on penalties due to non-attainment and asked if there are updates on Rule 317 – Clean Air Act Non-Attainment Fees. Mr. Krause replied that staff is working on amendments to Regulation III including looking at the Clean Air Act Non-Attainment fees and Regulation III is on the Rule Forecast calendar. For additional details on the presentation and discussions, please refer to the [Webcast](#) beginning at 42:25.

Ms. Loof commented on industries bringing volatile organic compound (VOC) reduction and suggested that the South Coast Air Quality Management District (South Coast AQMD) should take an advocacy role for businesses and communities and also mentioned million-dollar contracts for lobbyists. Mr. Alatorre provided correction to the contract amount, which was approximately \$220,000 per year for each consultant. For additional details on the presentation and discussions, please refer to the [Webcast](#) beginning at 46:40.

Harvey Eder provided public comment. For additional details, please refer to the [Webcast](#) beginning at 51:40.

For additional details on the presentation and discussions, please refer to the [Webcast](#) beginning at 36:55.

Agenda Item #7 – 2023 Rules Outlook

Mr. Krause presented on 2023 Rules Outlook.

Mr. LaMarr asked about a Regulation III workshop that is scheduled for the following week. Mr. Krause replied that the meeting has been cancelled. Susan Nakamura, Chief Operating Officer, confirmed that staff is working on proposed amendments to Regulation III. For additional details on the presentation and discussions, please refer to the [Webcast](#) beginning at 1:10:22.

Mr. Rothbart asked how staff prioritizes rule development. Mr. Krause explained that there are many factors that contribute to rule development prioritization, such as having prior commitments in the AQMPs, AB 617, staffing and time needed for the California Environmental Quality Act (CEQA) analysis and socioeconomic analysis. For additional details on the presentation and discussions, please refer to the [Webcast](#) beginning at 1:15:05.

Ms. Loof referenced a discussion on potential changes to ozone and particulate matter (PM) standards by Sarah Rees at a previous meeting and asked for an update. Mr. Krause stated that an update is unavailable and would follow-up. For additional details on the presentation and discussions, please refer to the [Webcast](#) beginning at 1:17:13.

***Follow-Up:** Provide an update on potential changes to ozone and PM standards mentioned at a previous meeting.*

Ms. Loof referenced slide #4 and asked for details on how amendments to Rule 1151 – Motor Vehicle and Mobile Equipment Non-Assembly Line Coating Operations were related to the Community Emission Reduction Plan (CERP). Mr. Krause replied that the South Los Angeles designated community expressed concern regarding auto body shops and wanted to ensure those facilities are conducting best practices and using the best technology available. Ms. Loof expressed concern that the CERPs are for specific communities and rules are applicable to all operators within South Coast AQMD. Mr. Krause stated that rules are jurisdictionally based and would benefit everyone as concerns highlighted by one community may also exist in other communities. For additional details on the presentation and discussions, please refer to the [Webcast](#) beginning at 1:18:38.

No public comment.

For additional details on the presentation and discussions, please refer to the [Webcast](#) beginning at 55:05.

Agenda Item #8 – Other Business

No other business.

Agenda Item #9 – Public Comment

Mr. Eder provided comment on solar power plans. For additional details, please refer to the [Webcast](#) beginning at 1:25:08.

Moses Huerta thanked everyone for their participation in the group.

Agenda Item #10 – Next Meeting Date

The next regular LGSBA Advisory Group meeting is scheduled for Friday, January 13, 2023, at 11:30 a.m.

Adjournment

The meeting adjourned at 1:08 p.m.

Local Government & Small Business Assistance Advisory Group

2022 Accomplishments

Throughout the year, the Local Government & Small Business Assistance (LGSBA) Advisory Group receives information and/or provides direct input on a variety of policy initiatives and proposed regulations that affect local governments, small businesses, and the general public.

Where appropriate, new additions and/or revisions were made by staff to improve proposals or policies, based on LGSBA members' input. A wide variety of comments were received on each of these items from LGSBA members representing local governments, small businesses, and the communities in general. Further details may be found in the minutes of meetings, where each item was discussed in depth.

Significant Items Addressed in 2022

Significant discussions were held during 2022 on many items. A few notable items that were discussed during 2022 are summarized below, while an additional list of topics discussed follows.

(1) Update on South Coast AQMD Mobile Source Incentive Programs

Mr. Walter Shen, Planning & Rules Manager, Technology Advancement Office, presented an overview and highlights on South Coast AQMD mobile source incentive programs. Funding for these programs is approved by South Coast AQMD Governing Board as contracts, and the funds are available until these contracts are completed. Mr. Shen indicated the cost-effectiveness of electrification have thresholds as established by the Carl Moyer guidelines, which is based on public feedback. The cost-effectiveness threshold of \$30,000 per weighted ton of total reduced emissions is for getting equipment to current standards, while the \$100,000 per weighted ton of reduced emissions is for zero-emission projects.

(2) Update on 2022 Air Quality Management Plan (AQMP) Related Activities

Dr. Sarah Rees, Deputy Executive Officer, Planning, Rule Development and Implementation, presented a summary of the overall process and work completed to date on the 2022 AQMP. Dr. Rees stated that it is important that the federal government develop and implement new regulations as most of the nitrogen oxides (NOx) come from federal sources such as ships, locomotives, aircrafts, and interstate trucks. Dr. Rees discussed South Coast AQMD's regulatory authority and rulemaking proceedings which require public input, including the business community, and support for science-based targets. Dr. Rees stated that NOx and volatile organic compound (VOC) reductions are important for attainment of the ozone standard.

(3) Health Effects of Criteria Pollutants

Dr. Rees presented a summary of the Health Effects Analysis of the Revised Draft 2022 AQMP. Dr. Rees indicated that U.S. EPA models were used for health effects modeling and did not include actual physical samples. Baseline models are used for the Draft 2022 AQMP and does not account for unusual weather events. Dr. Rees further stated that lower ozone standards would impact urbanized areas with high number of mobile sources, including highways and transportation hubs.

List of Items Addressed in 2022

A more complete list of items addressed during 2022 is shown below, with the dates of discussions noted in parenthesis, for reference and further details.

1. Monthly Report on Small Business Assistance Activities (monthly)
2. Annual Report on Assembly Bill (AB) 2766 Funds from Motor Vehicle Registration Fees for Fiscal Year 2019-2020 (January)
3. Proposed Updates to Best Available Control Technology Guidelines (January)
4. Update on AB 617 for 2021 (February)
5. Update on South Coast AQMD Mobile Source Incentive Programs (February)
6. Information on Ultraviolet/Electron Beam/Light-Emitting Diode Technology in Printing and Industrial Applications & Ultraviolet-C for Air Filtration (March)
7. Updates on the 2022 State Legislative Priorities (March)
8. 2022 AQMP Overview (June)
9. Update on Technology Advancement Office Clean Fuels Program 2021 Annual Report and 2022 Clean Fuels Plan (June)
10. Update on Progress of 2022 LGSBA Goals & Objectives (August)
11. Fiscal Year 2022-23 General Fund Budget (August)
12. Draft 2022 AQMP Overview (August)
13. Health Effects of Criteria Pollutants (September)
14. End-of-Year Summary Report on State Legislature's and Governor's Actions during 2022 Legislative Session (September)
15. Update on Draft Socioeconomic Report for the Revised Draft 2022 AQMP (October)
16. Update on Engineering and Permitting – Online Filing (December)
17. Overview of 2022 AQMP (December)
18. 2023 Rules Outlook (December)

Local Government & Small Business Assistance Advisory Group

Proposed 2023 Goals & Objectives

For 2023, the LGSBA Advisory Group will provide input about regulatory policies and practices and suggest enhancements to promote small business economic growth while furthering air quality and public health protection, consistent with the LGSBA Advisory Group mission statement.

The following items are proposed to be discussed in depth for 2023:

1. Update on 2022 Air Quality Management Plan (AQMP):
2. Implementation of Assembly Bill (AB) 2766 requirements.
3. Significant South Coast AQMD rule amendments, proposals or initiatives as necessary.
4. Update on South Coast AQMD's state and federal legislative agenda at periodic intervals.
5. Update on the health studies related to air pollutants.
6. Update on Fiscal Year 2023-24 Draft Budget and Work Program.
7. Update on Technology Advancement projects.
8. Update on Greenhouse Gas-related activities.
9. Update on South Coast AQMD's Incentive programs.
10. Update on South Coast AQMD's implementation of Office of Environmental Health Hazard Assessment's (OEHHA's) updated methods for estimating cancer risks.
11. Update on Best Available Control Technology Guidelines.
12. Update on Permit Application Inventory & Staffing Efforts.
13. Update on Assembly Bill (AB) 617 progress.
14. Summary of Compliance & Enforcement Activities
15. Update on OEHHA's and California Air Resources Board's (CARB's) presentations on addressing unassessed chemicals and using provisional health values.
16. Overview of U.S. Environmental Protection Agency's Emissions During Periods of Startup, Shutdown, & Malfunction (SSM) provisions.
17. Overview of Rule 317: Fee Equivalency Account Reconciliation Report.
18. Overview of CARB on Zero-Emission Forklifts regulation.

19. Presentation and update on CARB's Environmental Justice Committee managing the AB 32 Scoping Plan.

The approved minutes, reflecting the discussions, will be forwarded to the Administrative Committee and the Governing Board. Not all items may be covered due to time constraints. The LGSBA Chair may also make further changes to accommodate requests received or cover issues not anticipated at the beginning of the year.

CLEAN FUELS PLAN UPDATE

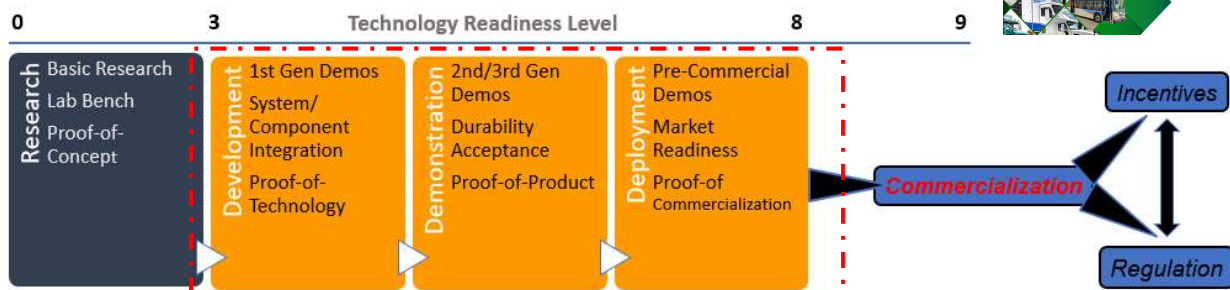
South Coast AQMD Local Government and Small Business Assistance Advisory Group Meeting
January 13th, 2023

Maryam Hajbabaie, Ph.D.
Program Supervisor

1

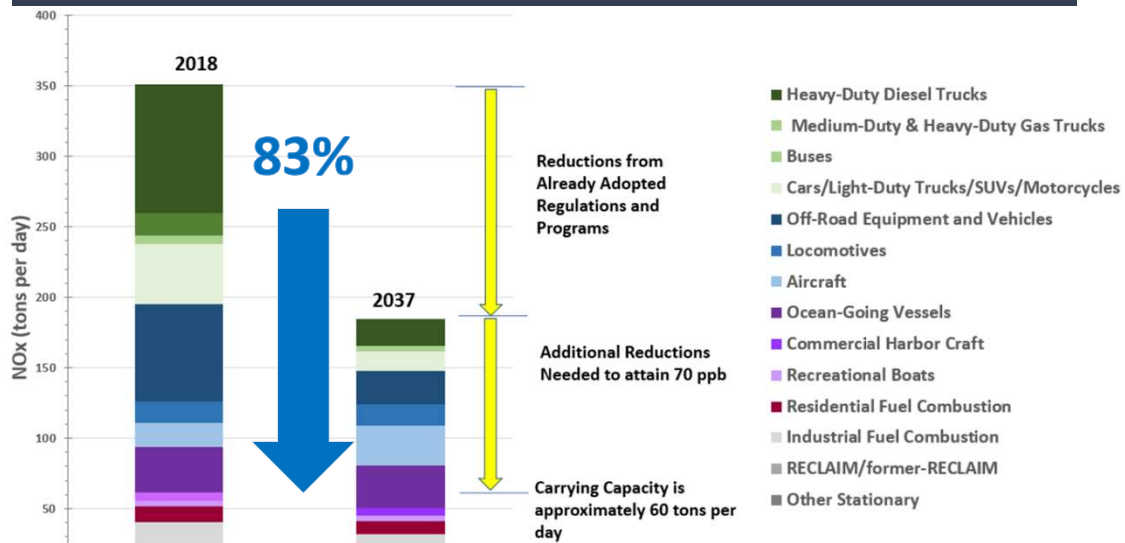
Clean Fuels Program Fund

- Established in 1988
- \$1 fee on DMV registrations (\$~12M/year)
- Stationary source fee (~\$400k/year)
- Leverage funds with grants and other project partners
- Research, develop, demonstrate, and deploy clean technologies



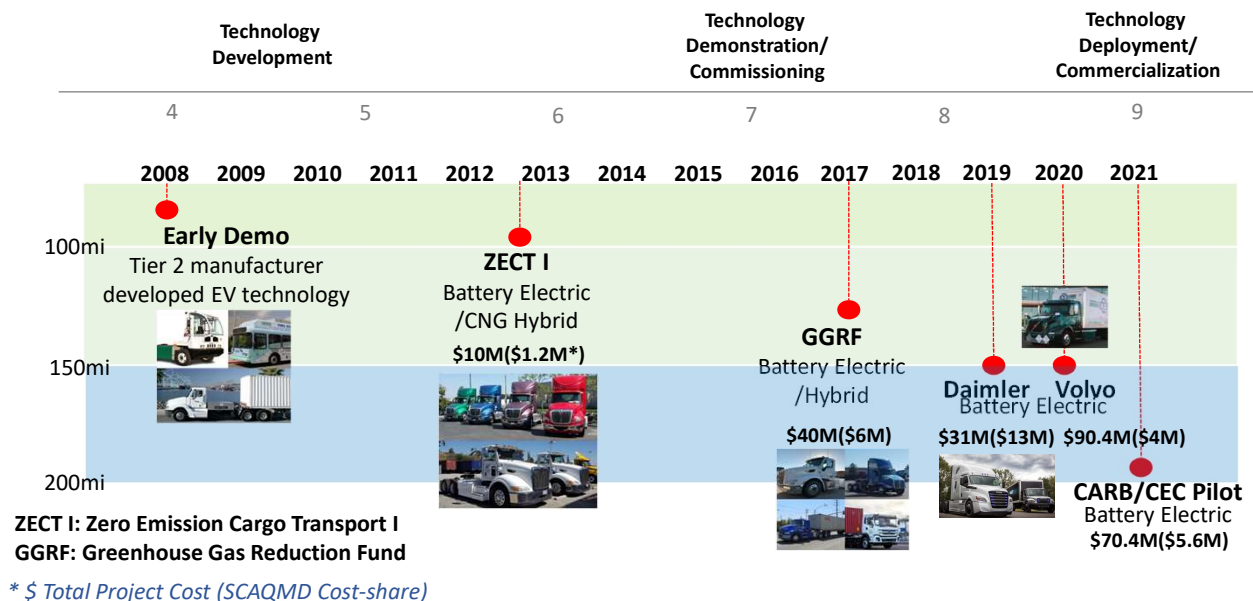
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2022 Air Quality Management Plan



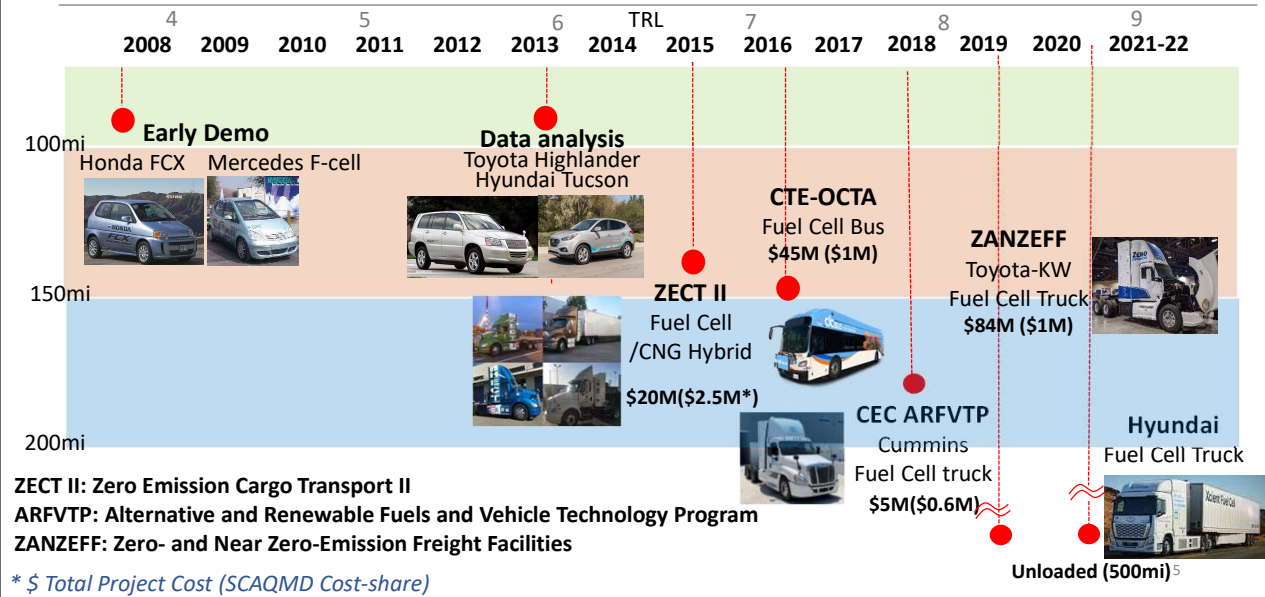
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Zero Emission Battery Electric Vehicle Projects



4

Zero Emission Fuel Cell Vehicle Projects



5

Fuel Cell vs. Battery Electric Technologies

	Battery Electrics	Fuel Cells
Challenges	<ul style="list-style-type: none"> Slower charging time; 1MW-500kW charging is needed Lower range – 150-200 miles Installing charging Infrastructure can be expensive – grid load issues Weight issues Battery recycling 	<ul style="list-style-type: none"> Least commercialized option High MSRP High fuel cost Fueling infrastructure not commonly available



Scale-up Zero Emission Truck Deployment
By Increasing Availability of Infrastructure



6

Draft 2023 Clean Fuel Plan Update Key Technical Areas

- Zero emission medium and heavy-duty trucks and equipment
- Challenges and solutions to deploy zero emission infrastructure
- Zero emission microgrids
- Ultra-low NO_x and heavy-duty zero emission engine technologies
- Emission studies on renewable fuels and other sources
- Maintain other areas of emphasis



7

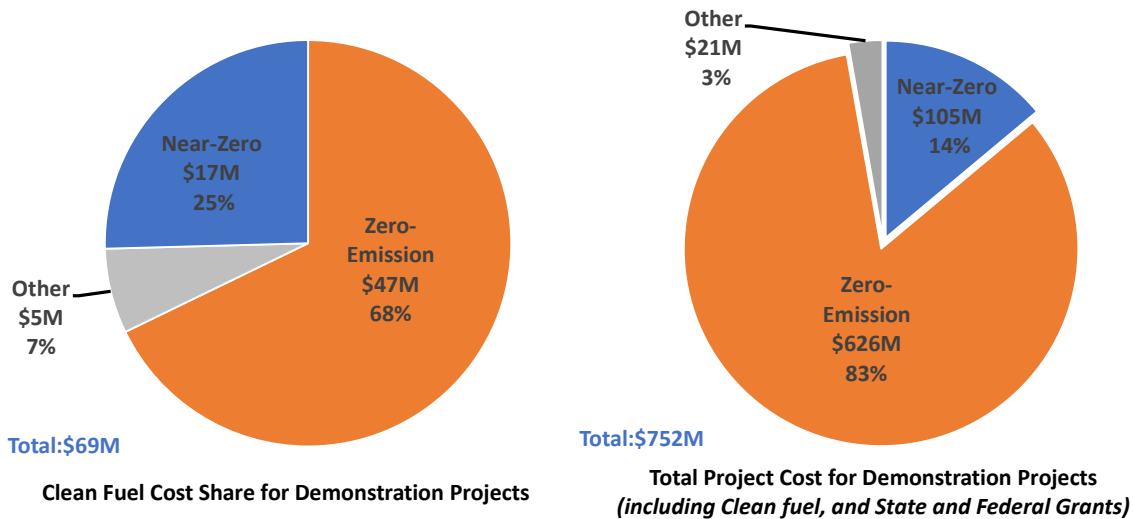
Draft 2023 Plan Update Proposed Projects

- Large deployments of medium and heavy zero emission trucks and infrastructure
- Microgrid demonstrations to support heavy-duty truck charging and hydrogen fueling
- High-power charging to decrease dwell time of battery electric trucks
- Develop and demonstrate fuel cell electric trucks and equipment
- Develop and demonstrate green hydrogen production pathways



8

Funding Allocation for Technology Demonstration Projects Since 2017



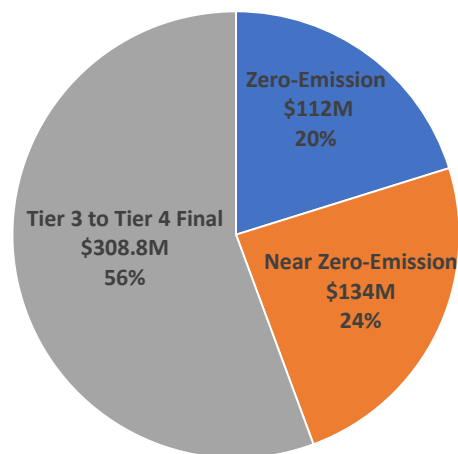
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9

Incentive Funding Allocation Since 2017

Main Incentive Programs

- Carl Moyer Program
- Proposition 1B Goods Movement
- Lower School Bus Program
- Replace Your Ride

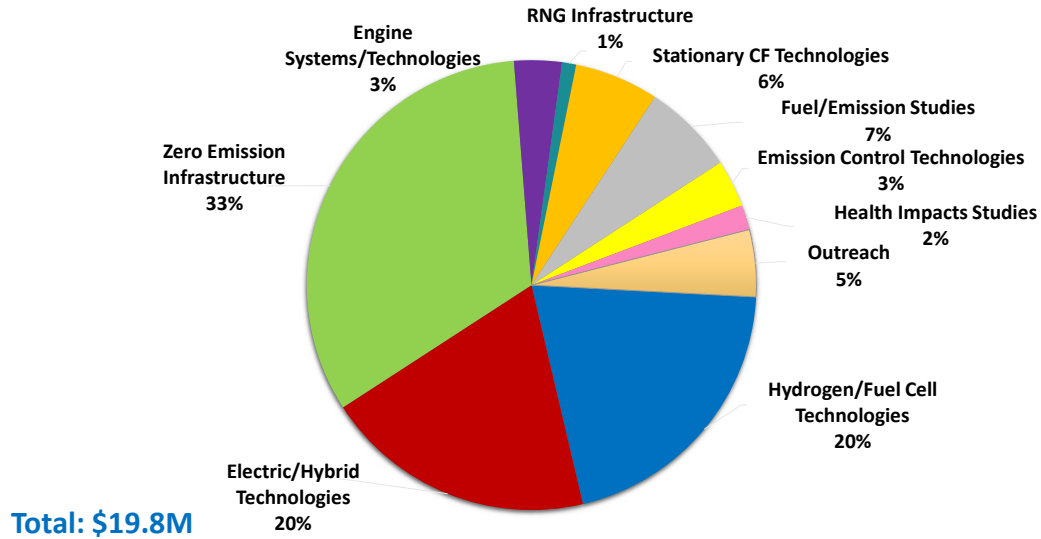


Total Projects Awarded for Zero, Near-zero and Clean Diesel Projects through Main Incentive Programs

10

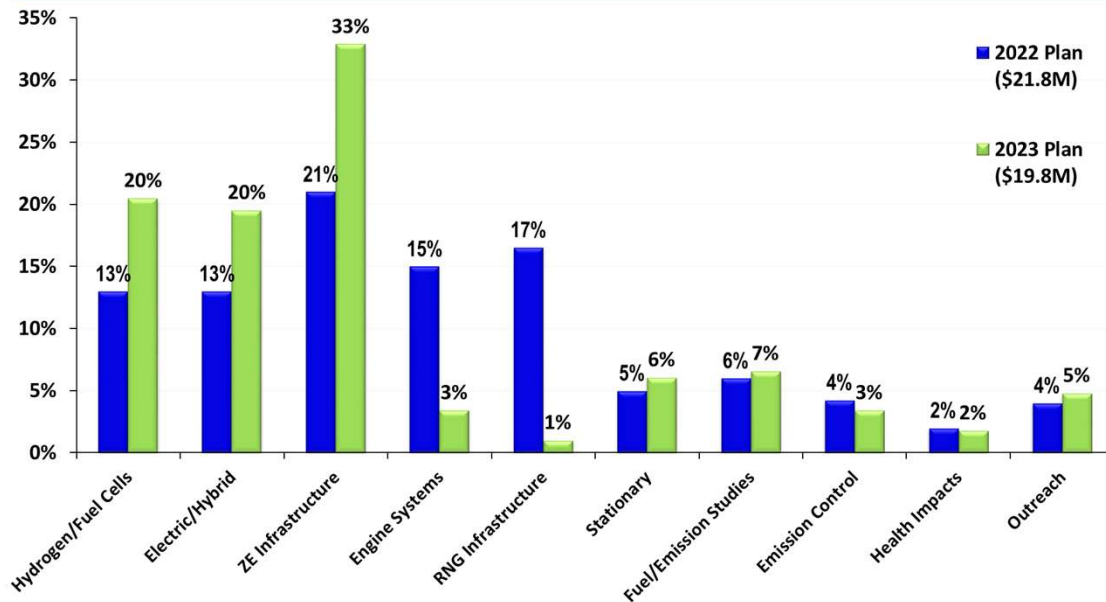
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Proposed 2023 Clean Fuel Plan Distribution



11

Plan Update Comparison



12

Summary

- The Clean Fuels Program is re-evaluated annually to develop the annual Plan Update based on a reassessment of the technology progress and direction for the agency.
- The 2022 AQMP proposes an economy-wide transition to zero-emission and advanced technologies where feasible, while low NOx emission technologies are still needed to improve air quality
- Clean Fuel Plan Update provides a new focus on technology development for zero-emission infrastructure.

13

Backup Slides

14

Main Incentive Programs



Carl Moyer Program

- HD trucks, Off-Road construction/AG, marine vessels, locomotives, cargo handling and infrastructure
- 1998 to Present
- \$575M
- 8,714 vehicles/engines
- Emissions Reduced (TPY)
NOx: 9,242, PM: 263



Proposition 1B Goods Movement

- HD trucks, cargo handling, TRU, locomotives and shore power
- 2009 to Present
- \$519M
- 7,810 vehicles/equipment
- Emissions Reduced (TPY)
NOx: 7,387, PM: 220



Lower School Bus Program

- School buses, infrastructure and CNG tank replacements
- 2001 to Present
- \$372M
- 5,378 buses
- Emissions Reduced (TPY)
NOx: 891, PM: 64



Replace Your Ride

- LD vehicles, EV chargers and alternative options (passes, car sharing)
- 2015 to Present
- \$66M
- 8,310 vehicles
- Emissions Reduced (TPY)
NOx: 37, HC: 8

Data updated as of February 2022