



Voluntary California Clean Construction Program

Informational Session
Spring 2025

Welcome to the California Air Resources Board's (CARB) Public Informational Session to Discuss Development of a California Clean Construction Program



Use the Question & Answer feature to type a question



Use the raised hand function (#2 if calling in by phone)



Please state your name and affiliation before asking a question or making a comment

Outline

- Purpose
- Background
- Proposed Program Concepts
- Anticipated Timeline and Next Steps
- Resources
- Discussion



Program Purpose

- Reduce emissions from Off-Road equipment
- Promote zero-emission mobile off-road construction equipment

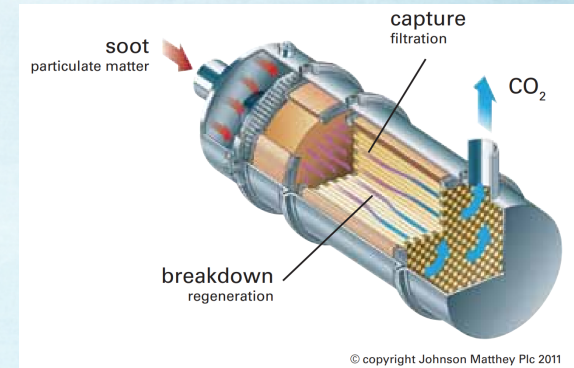




Background

California New Off-Road Engine Emission Standards

- For new off-road equipment to be sold legally in California, the engines must meet emission standards.
- Currently, California's and the United States Environmental Protection Agency's standards are identical, i.e., harmonized.
- Diesel particulate filters (DPFs) capture toxic diesel particulate matter before it can be emitted.
- In meeting today's particulate matter (PM) standard for 56-560 kilowatt (kW) engines, about half of California engine families are certified without DPFs.



European Union Nonroad Mobile Machinery Emission Standards and DPFs

- The European Union (EU) has its own nonroad emission standards, Stage V, which were implemented in 2019.
- The Stage V standards require nonroad engines to meet a PM standard along with additional particle number (PN) limits specifically for nonroad engines 19-560 kW.
- The European Stage V PN standard requires all new engines to be equipped with a DPF.
- If more manufacturers bring off-road engines with DPFs to California, that would further reduce toxic diesel particulate matter emissions.

Current Off-Road In-Use Diesel Fleet Regulation Overview

- Applicability: Vehicles with diesel-fueled off-road compression-ignition engines with maximum horsepower (hp) ≥ 25
- Primary Elements
 - Reporting and labeling vehicles
 - Declining fleet average emissions targets
 - Best available control technology
 - Tier phase-out dates
 - Ban on adding older vehicle tiers
 - Idling limits and contracting requirements
 - R99 or R100 Renewable Diesel usage

Vehicle Label



California Environmental Quality Act (CEQA)

- CEQA generally requires state and local government agencies to inform decision makers and the public about the potential environmental impacts of proposed projects, and to reduce those environmental impacts to the extent feasible.

Zero-Emission Projects



CALIFORNIA
High-Speed Rail Authority

**Proposed Zero-Emission Construction
Equipment Requirements**

For Fresno Early Activation Projects

1



Turner uses electric skid steer at Berkeley's \$550M Gateway project

Public Facing Equipment Availability Resources

- CARB Advanced Clean Off-Road Equipment List
 - Lists over 360 zero-emission construction equipment
 - <https://ww2.arb.ca.gov/sites/default/files/2023-08/2023%20ZEE%20List%2008142023.pdf>
- Drive to Zero, Off-Road Zero-Emission Technology Inventory
 - <https://globaldrivetozero.org/tools/zeti-offroad/>
 - Lists 48 Original Equipment Manufacturers with 80 different zero-emission equipment models





Proposed Program Concepts

Proposed Program Concept



- Minimum of 35% of total number of available off-road equipment are zero-emission for project to participate.
- Tier 4 Final with DPF required for the remaining equipment
- Develop standardized program reference for inclusion in off-road construction project proposals, CEQA mitigation.

Proposed California Clean Construction Program Process

Participation in Program

- Determine minimum threshold for zero-emission project requirement.



Project Planning

- Design requirements for project.
- Develop anticipated project equipment list.
- Analyze zero-emission equivalent equipment.
- Identify and procure zero-emission equipment for use.
- Estimate power demand and request grid capacity information.
- Plan charging and/or fuel cell related needs.

How It Works

- The project incorporates California Clean Construction guidelines and declares the minimum eligibility threshold for zero-emission mobile equipment (not less than 35%).
- The project's anticipated off-road equipment list would be checked against publicly available databases for available eligible equipment.
- The contractor would agree upon condition of the bid, to provide a minimum of the program threshold equipment with the remainder Tier 4 Final + DPF.

Example Project Calculation

- CCC Project anticipates need for ten off-road construction vehicles.
- From the ten, seven are identified as being available in a zero-emission equipment available version.
- Three is 43% of seven.
- The contractor provides a minimum of three zero-emission equipment on the project satisfying the 35% minimum condition.
- The remaining seven equipment are Tier 4 Final with DPF.

35% Threshold for Project Participation

- Projects can select minimum requirements greater than 35% to satisfy their project goals.
- While the number of zero-emission equivalent construction equipment continues to grow, not all equipment has a zero-emission alternative.
- What does “available” mean?
 - The zero-emission equipment threshold is determined from the anticipated equipment list that is commercially available for purchase, rent, or lease as zero-emission mobile equipment.

CARB's Program Web Page

- CARB web page hosts:
 - Program guidelines,
 - Example language templates available for inclusion in requests for bids & proposals, and
 - Example language templates as CEQA mitigation measure response to project proposals.

Voluntary Use Opportunities

- Municipalities
- Air Districts
- Regional Agencies and Associations of Governments
- Private Industry and Organizations



Open Discussion

- Is 35% of available zero-emission equipment the appropriate minimum threshold with Tier 4 Final with Diesel Particulate Filter (DPF) required for the remaining equipment?
- Should the focus be project horsepower based instead of by number of equipment?
- Should internal combustion equipment smaller than 25 hp be included and if so, what would be the lower limit?
- Should portable equipment like generators be included?
- Certificate, award, or other?
- Recommendations for creating awareness?
- Other considerations



Timeline and Next Steps

Timeline/Next Steps



- Finalize program criteria and post on CARB's website- 2025.
- Perform outreach to promote the program.
- Seek out feedback and opportunities for program improvements.



Resources

Resources and Incentives

- CARB Advanced Clean Off-Road Equipment List
 - <https://ww2.arb.ca.gov/sites/default/files/2023-08/2023%20ZEE%20List%2008142023.pdf>
- Off-Road Regulation Zone
 - <https://ww2.arb.ca.gov/our-work/programs/truckstop-resources/road-zone>
- Adding Zero-Emission Equipment Fact Sheet
 - <https://ww2.arb.ca.gov/resources/fact-sheets/fact-sheet-addition-zero-emission-equipment>



Additional Resources and Contact Information

- Off-Road Regulation webpage:

- www.arb.ca.gov/ordiesel

- Off-Road Zone webpage:

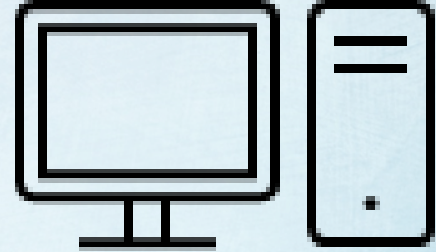
- www.arb.ca.gov/offroadzone

- DOORS Hotline and E-mail

- (877) 593-6677

- doors@arb.ca.gov

- ccc@arb.ca.gov



- Questions about Proposed California Clean Construction Program

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