

Who is CARB?



CARB

Regulates mobile sources of air pollution, greenhouse gases, and consumer products.



Cars



Trucks



Buses



In-Use compliance focuses on engines that are already in use by the public. Certification ensures that new engines being sold in California meet specific emissions standards.

Tools in Development

- Truck Idling
- Enhanced Enforcement
- Zero Emission Vehicle Deployment
- Emissions Reductions from Freight

What does this Community Steering Committee want to discuss?

What do you want to know more about?

What efforts do you have input on?

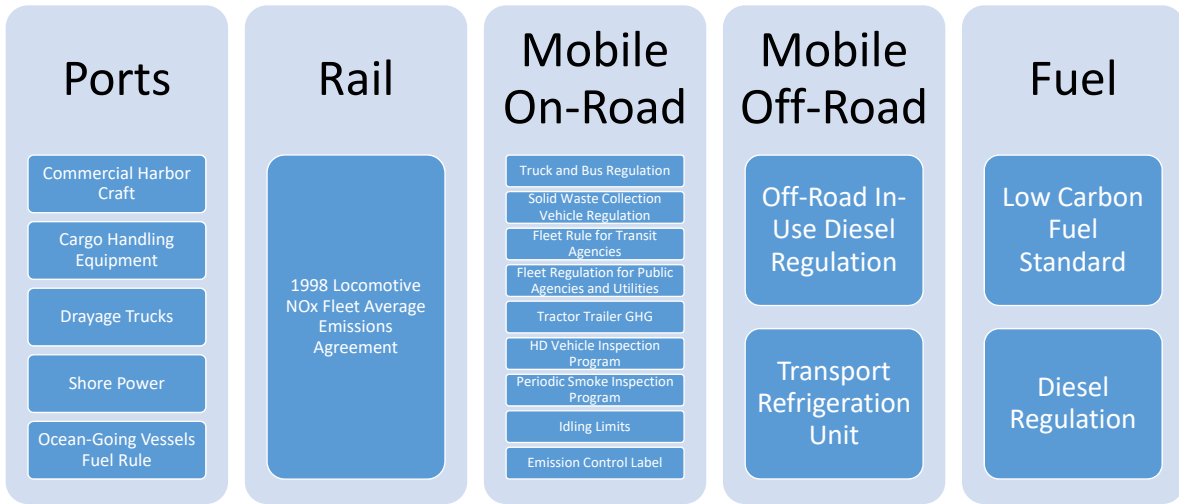
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CARB Resource Slides

California Air Resources Board

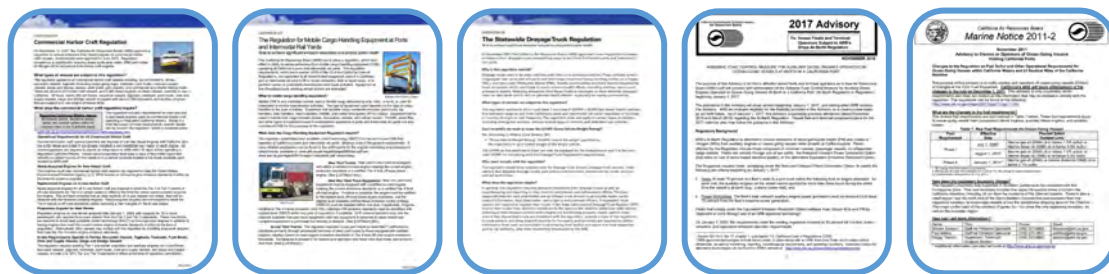
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Current Regulations and Control Measures



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Ports – Existing Regulations



Commercial Harbor Craft

Cargo Handling Equipment

Drayage Trucks

Shore Power

Ocean Going Vessels Fuel Rule

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Rail – Existing MOU

The 1998 Locomotive NOx Fleet Average Emissions Agreement in the South Coast Air Basin (1998 MOU)

- signed by CARB, Union Pacific Railroad (UP) and BNSF Railway (BNSF)
- accelerates the introduction of cleaner locomotives into the South Coast Air Basin.
- under the Agreement, UP and BNSF agreed to operate locomotive fleets that “on average” meet a Tier 2 NOx emission standard, or 5.5 g/bhp-hr by 2010 (and through 2030).
- the Agreement provides State Implementation Plan (SIP) creditable emission reductions.

<https://ww2.arb.ca.gov/our-work/programs/reducing-rail-emissions-california>

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Mobile On-Road – Existing Regulations

Idling Limits

Heavy-Duty Vehicle Inspection Program

Emission Control Label

Periodic Smoke Inspection Program

Truck and Bus Regulation

Tractor Trailer Greenhouse Gas

Solid Waste Collection Vehicle Regulation

Fleet Rule for Transit Agencies

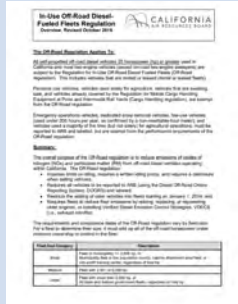
Fleet Regulation for Public Agencies and Utilities



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Mobile Off-Road – Existing Regulations

Off-Road In-Use Diesel Regulation



Transport Refrigeration Units



Fuel – Existing Regulations

Low Carbon Fuel Standard

- The Low Carbon Fuel Standard is a key part of a comprehensive set of programs in California to cut greenhouse gas emissions and other smog-forming and toxic air pollutants by improving vehicle technology, reducing fuel consumption, and increasing transportation mobility options.
- <https://www.arb.ca.gov/fuels/lcfs/lcfs.htm>

Diesel Regulation

- Sets stringent standards for California diesel fuel content.
- <https://www.arb.ca.gov/fuels/diesel/diesel.htm>

Alternative Diesel Fuel Regulation

- The Alternative Diesel Fuels regulation is intended to create a framework for low carbon, and often times lower polluting, diesel fuel substitutes to enter the commercial market in California, while mitigating any potential environmental or public health impacts.
- <https://ww2.arb.ca.gov/index.php/our-work/programs/alternative-diesel-fuels>

Moving Forward: On-Road

Expected Board consideration/adoption – Implementation Begins



Innovative Clean Transit	→ ADOPTED
Fleet Smoke Inspection Rules	→ ADOPTED
Heavy Duty On-Board Diagnostic Regulations	→ ADOPTED
Advanced Clean Trucks	→
Advanced Clean Cars 2	→
Heavy Duty Inspection & Maintenance	→
Zero Emission Drayage Trucks	→

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Moving Forward: Off-Road

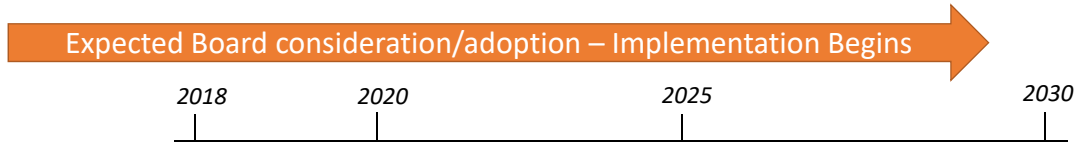
Expected Board consideration/adoption – Implementation Begins



Ships at Berth Amendments	→
Zero Emission Transport Refrigeration Unit	→
Small Off Road Engines	→
Reduced Idling at Rail Yards	→
Commercial Harbor Craft Amendments	→
Zero Emission Cargo Handling Equipment	→
Emissions Reductions from Non-Preempted Locomotives	→

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Moving Forward: Fuel



Low Carbon Fuel Standard	 ADOPTED
Low Emission Diesel Requirement	

Port Focused NEW Measures



Ships At-Berth Amendment (Shorepower)

- This strategy encompasses changing the current shorepower regulation to gain additional emissions reductions from even more vessel fleets, types, and operations
- <https://www.arb.ca.gov/ports/shorepower/shorepower.htm>



Commercial Harbor Craft Amendment

- This strategy would create more stringent engine requirements for freight and passenger vessels. (Blueprint page F-3)
- <https://ww2.arb.ca.gov/our-work/programs/commercial-harbor-craft>

Port Focused NEW Measures (cont.)



Zero Emission Cargo Handling Equipment

- This strategy will transition cargo handling equipment to zero emission technology. In addition to emissions reductions at seaports, this strategy would also provide reductions at intermodal rail yards. (Blueprint page F-3)
- <https://ww2.arb.ca.gov/our-work/programs/cargo-handling-equipment>



Zero Emission Drayage Trucks

- This strategy will transition drayage trucks to zero emission technology. In addition to emissions reductions at ports, this strategy would also provide reductions at intermodal rail yards. (Blueprint page F-4)
- <https://www.arb.ca.gov/msprog/onroad/porttruck/porttruck.htm>

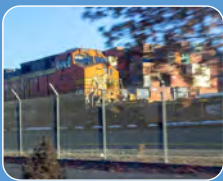
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Rail Focused NEW Measures



Reduced Idling at Railyards

- This strategy would reduce emissions from idling freight and passenger locomotives with implementation targeting communities with high cumulative exposure burdens. (Blueprint page F-5)
- <https://ww2.arb.ca.gov/our-work/programs/reducing-rail-emissions-california>



Emissions Reductions from Non-preempted Locomotives

- This strategy would reduce emissions from older locomotives operating in California. (Blueprint page F-5)
- <https://ww2.arb.ca.gov/our-work/programs/reducing-rail-emissions-california>

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Mobile On-Road Focused NEW Measures



Innovative Clean Transit

- This regulation requires all public transit agencies to gradually transition to a 100 percent zero-emission bus (ZEB) fleet and encourages them to provide innovative first- and last-mile connectivity and improve mobility for transit riders. This regulation also provides various exemptions and compliance options to provide safeguards and flexibility for transit agencies through this transition.

- <https://www.arb.ca.gov/msprog/ict/ict.htm>

- <https://ww2.arb.ca.gov/rulemaking/2018/innovative-clean-transit-2018>



Fleet Smoke Inspection Rules

- Amendments to the Heavy Duty Vehicle Inspection Program (HDVIP) and Periodic Smoke Inspection Program (PSIP) reflect lower smoke opacity limits from diesel exhaust.

- <https://www.arb.ca.gov/msprog/hdim/hdim.htm>

- <https://ww2.arb.ca.gov/rulemaking/2018/heavy-duty-vehicle-inspection-program-and-periodic-smoke-inspection-program>

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Mobile On-Road Focused NEW Measures (cont.)



Heavy Duty OBD Regulations

- Proposed updates to these regulations include updating monitoring requirements, changing testing requirements, gathering more robust data, and enhancing enforcement of non-compliance.

- <https://www.arb.ca.gov/msprog/obdprog/hdodbreg.htm>

- <https://ww2.arb.ca.gov/rulemaking/2018/heavy-duty-board-diagnostic-system-requirements-2018>



Advanced Clean Trucks

- This proposed strategy will accelerate first-wave zero-emission truck deployments by requiring manufacturers to sell a portion of Class 2B and above sales as zero-emission starting 2024.

- Fleets to report data to inform on what vehicles are good targets for electrification and inform future fleet rules.

- <https://ww2.arb.ca.gov/our-work/programs/advanced-clean-trucks>

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Mobile On-Road Focused NEW Measures (cont.)



Advanced Clean Cars 2

- This proposed strategy would help increase the number of zero emission vehicles on the road and may also include lowering overall fleet emissions
- <https://ww2.arb.ca.gov/our-work/programs/advanced-clean-cars-program>



Heavy-Duty Inspection & Maintenance

- This future program could help ensure that broken emissions control components on heavy-duty vehicles are repaired in a timely manner and are operating as designed to meet California's public health protection goals.
- <https://ww2.arb.ca.gov/our-work/programs/heavy-duty-inspection-and-maintenance-program>

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Mobile Off-Road Focused NEW Measures



Zero Emission Transport Refrigeration Unit

- This proposed measure would focus on transitioning transport refrigeration units (TRUs) to zero emission or near-zero emission to achieve emissions reductions while in transit and at freight hubs.
- <https://ww2.arb.ca.gov/our-work/programs/transport-refrigeration-unit/new-transport-refrigeration-unit-regulation>



Small Off-Road Engines

- This proposed measure will seek to reduce emissions from small off-road engines by tightening emissions standards and developing strategies to transition to zero emission.
- <https://ww2.arb.ca.gov/our-work/programs/small-off-road-engines-sore>

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Fuel Focused NEW Measures



Low Carbon Fuel Standard

- Approved amendments to the Low Carbon Fuel Standard (LCFS) strengthen targets to 2030 and encourage zero emission vehicle infrastructure, among other improvements.
- <https://www.arb.ca.gov/fuels/lcfs/lcfs.htm>

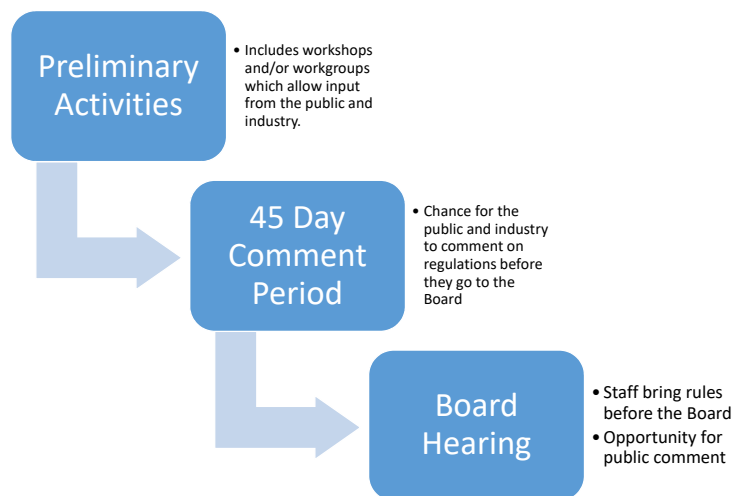


Low-Emission Diesel Requirement

- This proposed measure would establish performance requirements for low-emission diesel fuel and would require diesel fuel producers to decrease criteria pollutant emissions from their diesel products.

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Regulatory Process



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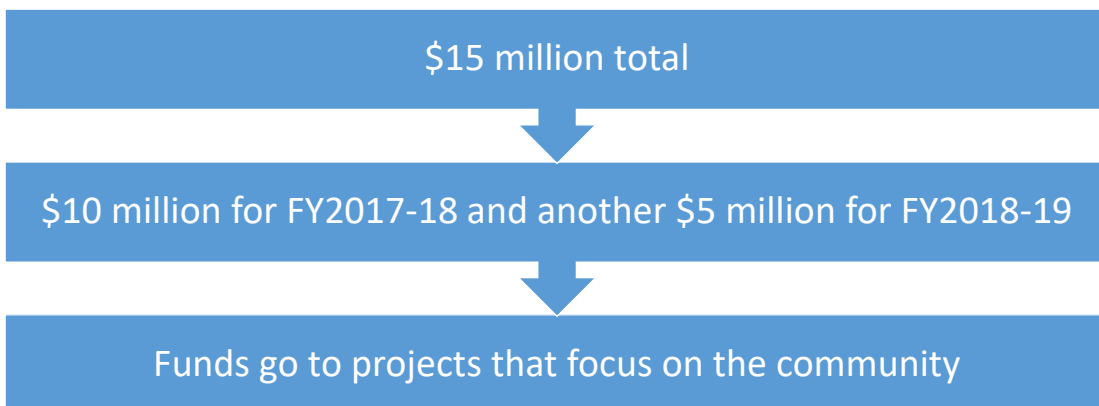
CARB Vehicle Idling Pilot Study



1. Evaluate idling regulations with current emissions data
2. Identify idling locations and collect activity data
3. Assess need for additional mitigation measures

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Community Air Grants

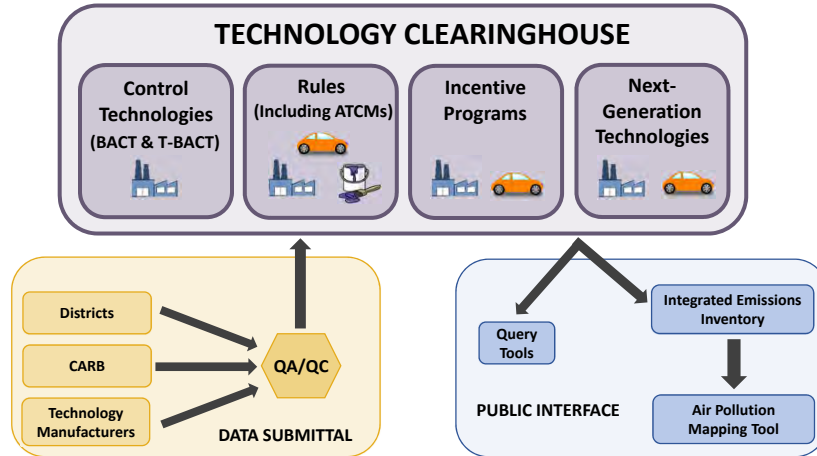


<https://ww2.arb.ca.gov/our-work/programs/community-air-protection-program/community-air-grants>

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Technology Clearinghouse Update

- BACT = Best Available Control Technology
- T-BACT = Best Available Control Technology – Toxics
- ATCM = Air Toxic Control Measure



★ New System Available in Early 2020

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Technology Clearinghouse Example

Control Level	Costs	Emissions Reductions	Example Technology
Advanced Technology	\$\$\$	☁	Catalyst, PM Filter
Zero Emissions	\$\$\$\$	☁☁☁	Renewable, Fuel Cell, Battery

Control Level	Costs	Emissions Reductions	Example Technology
Advanced Technology	\$\$	☁	Particulate Filter
Zero Emissions	\$\$\$\$	☁☁	Fuel Cell, Battery

Handouts

The following pages are handouts associated with this resource slide deck. They include:

- A Guide to California's Clean Air Regulations for Heavy-Duty Vehicles
- Cargo Handling Equipment Regulation Overview
- Commercial Harbor Craft Regulation Overview
- Drayage Truck Regulation Overview
- At-Berth (Shorepower) Advisory
- Ocean Going Vessels Fuel Rule Advisory
- Off-Road Regulation Overview
- Transportation Refrigeration Unit Brochure

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