SOUTH COAST AQMD
ZERO & NEAR-ZERO EMISSION TRUCKS

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4 Counties of
• Los Angeles
• Orange
• San Bernardino
• Riverside

44% State’s population in South Coast

AQMD (44%) CA (56%)
South Coast Air Quality Management District

40% Containerized goods to nation

44% State’s population in South Coast
Thousands of lives could be saved in California by stricter air pollution limits, study finds

SoCal hit with worst smog in years as hot, stagnant weather brings surge in hospital visits

Smog descends on downtown Los Angeles during a November afternoon in 2015. (Los Angeles Times)

By Tony Barboza

AUGUST 11, 2016, 9:00 AM
Top NOx Sources 2023

- Heavy-Duty Diesel Trucks
- Medium-Duty Trucks
- Cars/Light-Duty Trucks/SUVs
- Buses
- Recreational Boats
- Locomotives
- Ocean Going Vessels
- Off-Road Mobile Equipment
- Heavy-Duty Gas Trucks
- Service and Commercial
- Residential Fuel Combustion
- Manufacturing and Industrial
- Commercial Harbor Craft
- Other

NOx Tons/Day:
- 40
- 50
- 100
- 150
- 200
- 250

Year:
- 2023
- 2032

Percentage:
- 43-55%
Near-Zero Emission NG Engines

Ultra-Low Emission Heavy-Duty Natural Gas Engine Tests Better Than 99.8 Percent Clean

SOURCE: UNIVERSITY OF CALIFORNIA RIVERSIDE'S CE-CERT AUG 15, 2017

90% Lower NOx

12L
2016
2018

Southern California Gas Company
Clean Energy®
Zero Emissions Cargo Transport 1 & 2

- TransPower®
- US Hybrid
- BAE Systems
- gti
- cte
- NG Rex
- Fuel Cell
- H₂
- Battery
- Department of Energy
- State of California Energy Commission
- The Port of Long Beach
- LA DWP
- Southern California Gas Company
- NREL
- National Renewable Energy Laboratory

Image of cargo trucks lined up in a parking lot.
Zero Emissions Drayage Trucks

- $24 Million
- Battery
- NG Rex
- Diesel PHEV

Brands and Organizations:
- BYD
- KENWORTH
- Peterbilt
- VOLVO TRUCKS
- California Environmental Protection Agency
- AIR RESOURCES BOARD
- Bay Area Air Quality Management District
- San Joaquin Valley AIR POLLUTION CONTROL DISTRICT
- SACRAMENTO METROPOLITAN
- AIR QUALITY MANAGEMENT DISTRICT
- AIR POLLUTION CONTROL DISTRICT COUNTY OF SAN DIEGO
- CALSTART
- SDGE
Plug-in
Hybrid

Catenary

Battery Electric

1 – 2 miles

< 10 miles
Zero & Near-Zero Fleet Needed per Year until 2023

x 15
How to get to Tipping Point?

Initiating Market for Zero and Near-Zero Trucks

OEMs
Regulatory Push

Market Pull Incentives
Petition to EPA for Rulemaking to Adopt Ultra-Low NOx Exhaust Emission Standards for On-Road Heavy-Duty Trucks and Engines

Submitted by:

South Coast Air Quality Management District
Pima County Dept. of Environmental Quality (Arizona)
Bay Area Air Quality Management District (California)
Connecticut Dept. of Energy and Environmental Protection
Delaware Dept. of Natural Resources and Environmental Control, Division of Air Quality
Washoe Co. Health District, Air Quality Management (Nevada)
New Hampshire Dept. of Environmental Services
New York City Dept. of Environmental Protection (New York)
Akron Regional Air Quality Management District (Ohio)
Washington State Dept. of Ecology
Puget Sound Clean Air Agency (Washington)
California Senate leader eyes cap-and-trade funding for cleaner tractors, trucks and cars
Exhibit 1-23 Average Daily Long-Haul Freight Truck Traffic on the National Highway System, 2007

Note: Long-haul trucks typically serve locations at least 50 miles apart, excluding trucks that are used in movements by multiple modes and mail.

Exhibit 1-25 Average Daily Long-Haul Freight Truck Traffic on the National Highway System, 2040

Note: Long-haul trucks typically serve locations at least 50 miles apart, excluding trucks that are used in movements by multiple modes and mail.

Takeaways

- Emission reductions needed in truck sector
- Technologies will be available soon
- Continue support through early deployment
- Large amount of incentives will be necessary
- National markets needed to accelerate turnover
- CA issues will challenge rest of US