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

AQMD (44%) CA (56%)
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

Mobile

Ocean Craft

Vessels

Commercial

Harbor Craft

Service and

Commercial

Residential

Fuel Combustion

Manufacturing

and Industrial

Locomotives

Ocean Going

Vessels

Off-Road

Mobile Equipment

Heavy-Duty Gas

Trucks

Cars/Light-Duty

Trucks/SUVs

Buses

Recreational Boats

Medium-Duty Trucks

Light-Duty NOx Tons/Day

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

2016

12L

2018

Southern California Gas Company

Clean Energy®
Zero Emissions Cargo Transport 1 & 2

- TransPower®
- US Hybrid
- BAE Systems
- NG Rex
- cte

Battery

Fuel Cell

H₂

Department of Energy

State of California Energy Commission

The Port of Long Beach

Southern California Gas Company

NREL

LA DWP
Zero Emissions Drayage Trucks

BYD

$24 Million

Battery

KENWORTH

NG Rex

Peterbilt

San Joaquin Valley

AIR POLLUTION CONTROL DISTRICT

VOLVO TRUCKS

Diesel PHEV

California Environmental Protection Agency

AIR RESOURCES BOARD

Bay Area

Air Quality Management District

Sacramento Metropolitan

Air Quality Management District

APCD

AIR POLLUTION CONTROL DISTRICT

COUNTY OF SAN DIEGO

SDGE

CALSTART
Near-Zero Natural Gas

Plug-in Hybrid

Fuel Cell

Catenary

> 20 miles
How to get to Tipping Point?

Initiating Market for Zero and Near-Zero Trucks
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
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)
Emissions Analysis of a Statewide vs National Introduction of a New Technology

- Baseline
- National 0.02 In-Use Perf Level
- CA-only 0.02 In-Use Perf Level

SCAB: equal share reduction for 0.075 ppm ozone std

Years from Performance Level Introduction: 0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25

Percent of Starting NOx: 0% 10% 20% 30% 40% 50% 60% 70% 80% 90% 100% 110% 120%
California Senate leader eyes cap-and-trade funding for cleaner tractors, trucks and cars

AB 134
$250M to Air Districts
SCAQMD = $108M
Takeaways

- Need NOx reductions from mobile sector
- In order to scale up, need OEM engagement
- Funding to accelerate commercialization *and* Incentives for fleet turnover in CA
- National markets needed
- CA issues will challenge rest of US
- Infrastructure – start now!