



South Coast Air Quality Management District: Hydraulic Hybrids and Technology Advancement Perspective

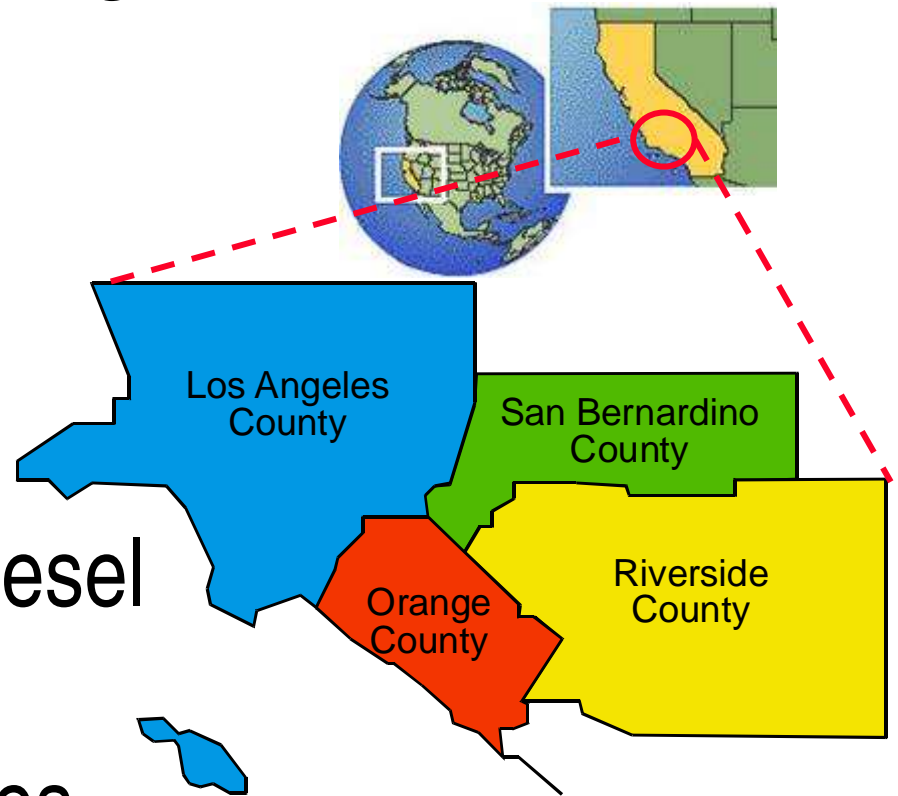


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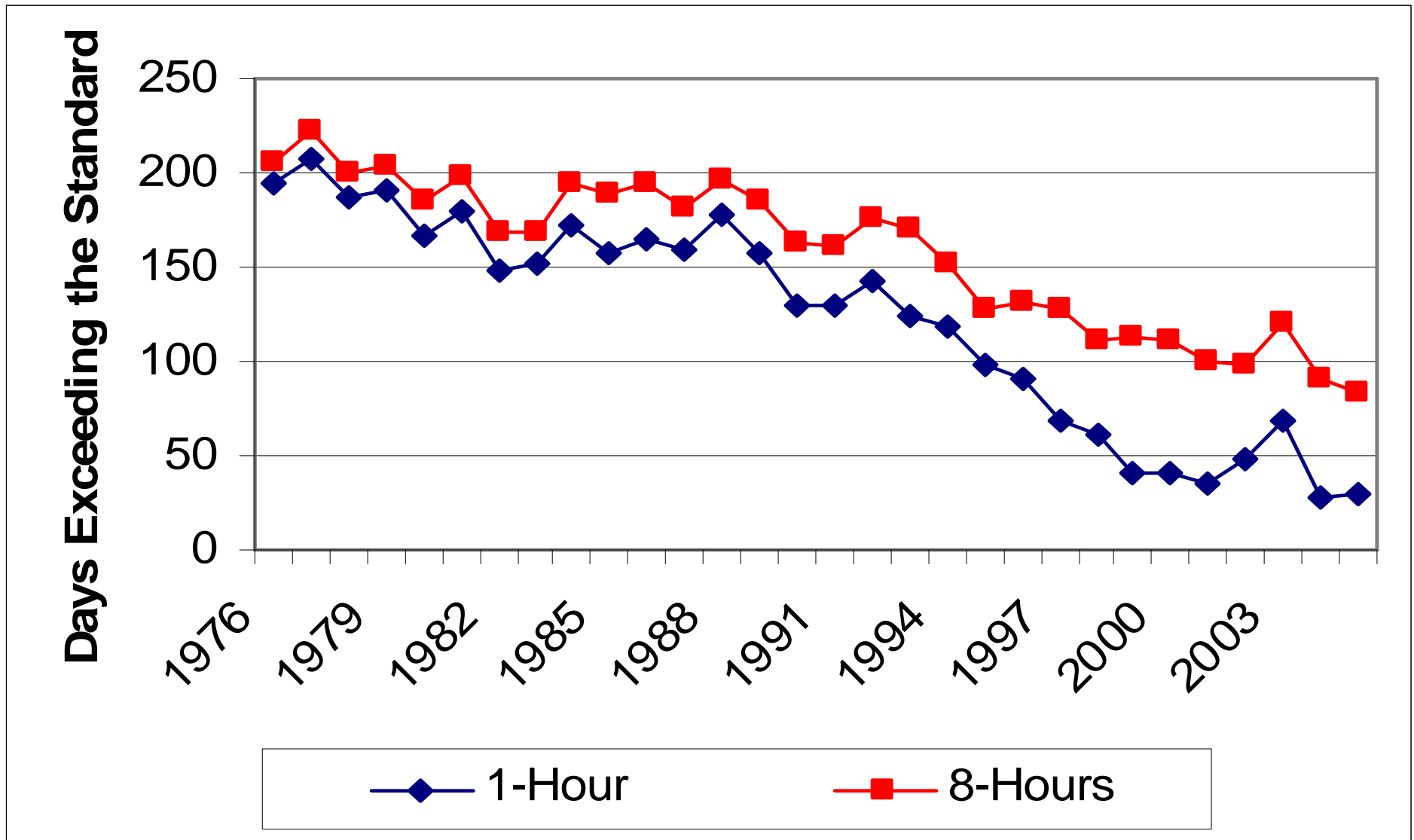
AQMD Background

South Coast Basin:

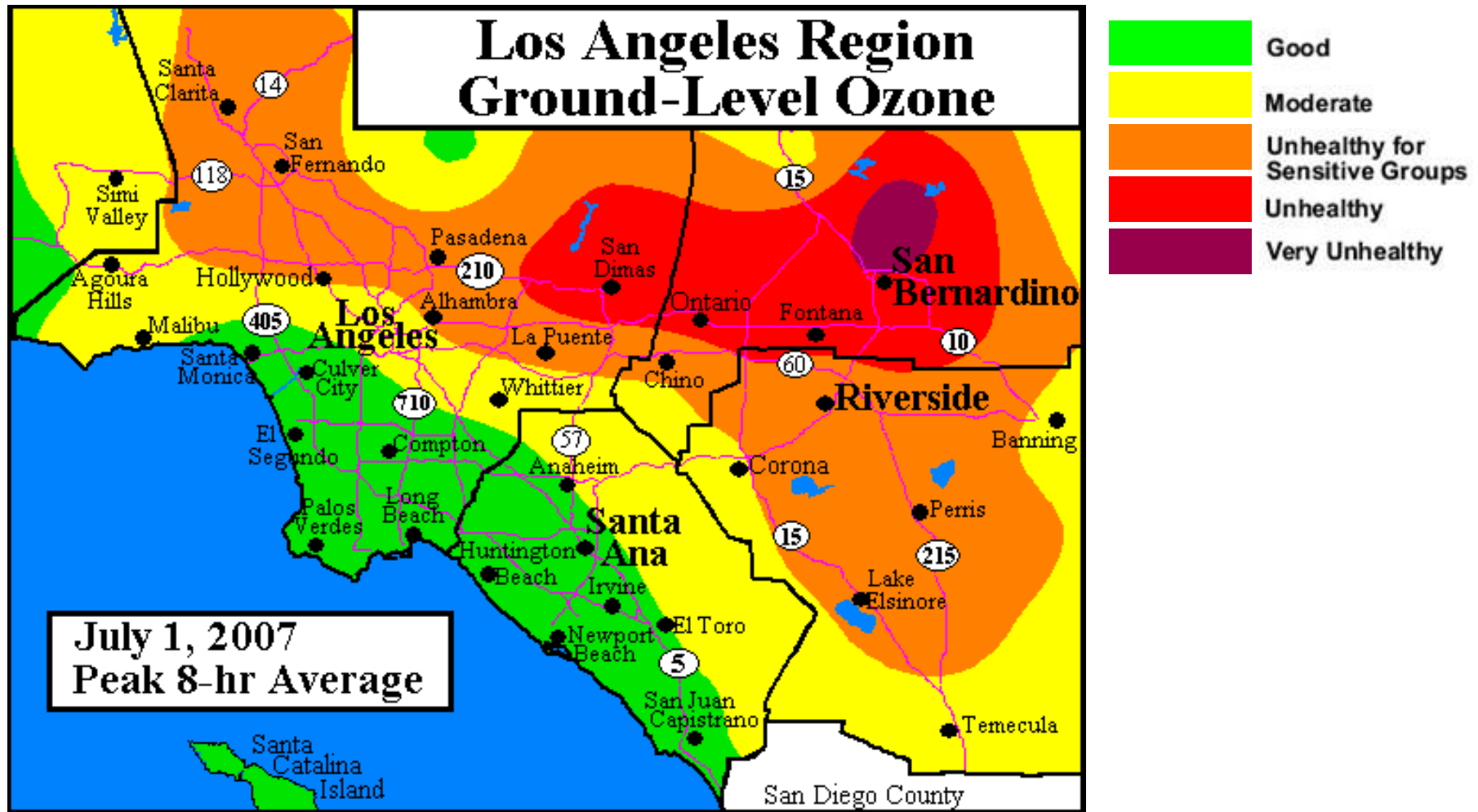
- 4-county region
- 11,000 sq. miles
- 16+ million residents
- Hundreds of thousands diesel vehicles
- Millions of gasoline vehicles
- Combined Ports of Long Beach and Los Angeles are nation's largest cargo gateway



Days Over the Federal Standards

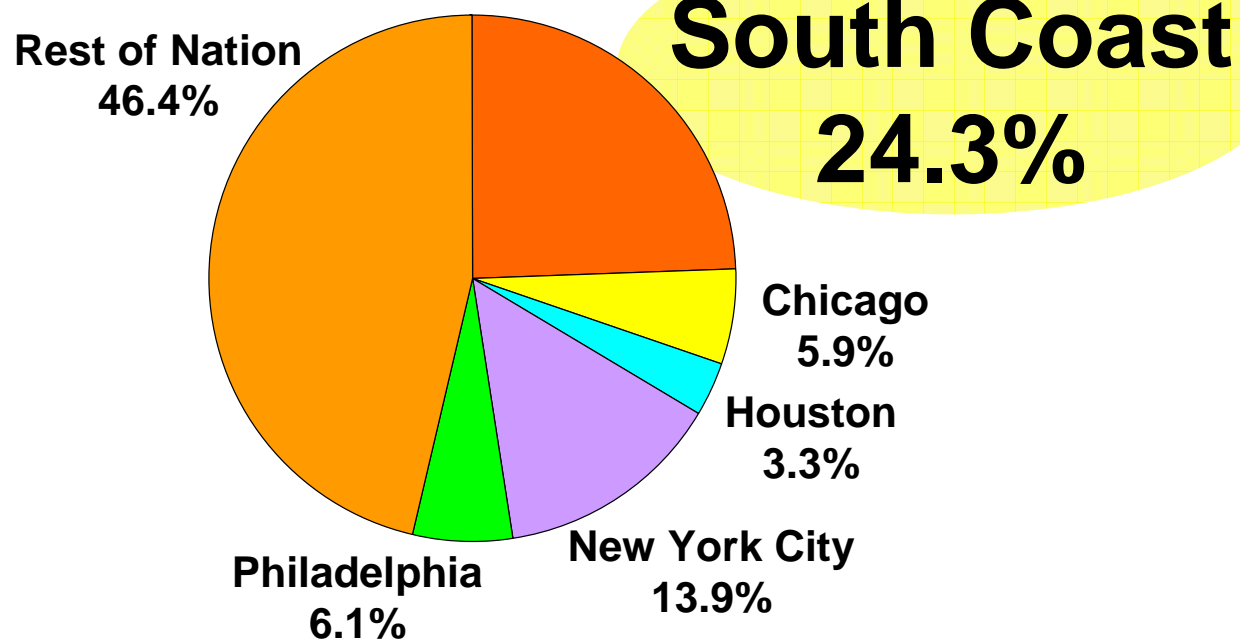


Worst Air Quality in the U.S.



SCAB's Disproportionate Air Pollution Exposure

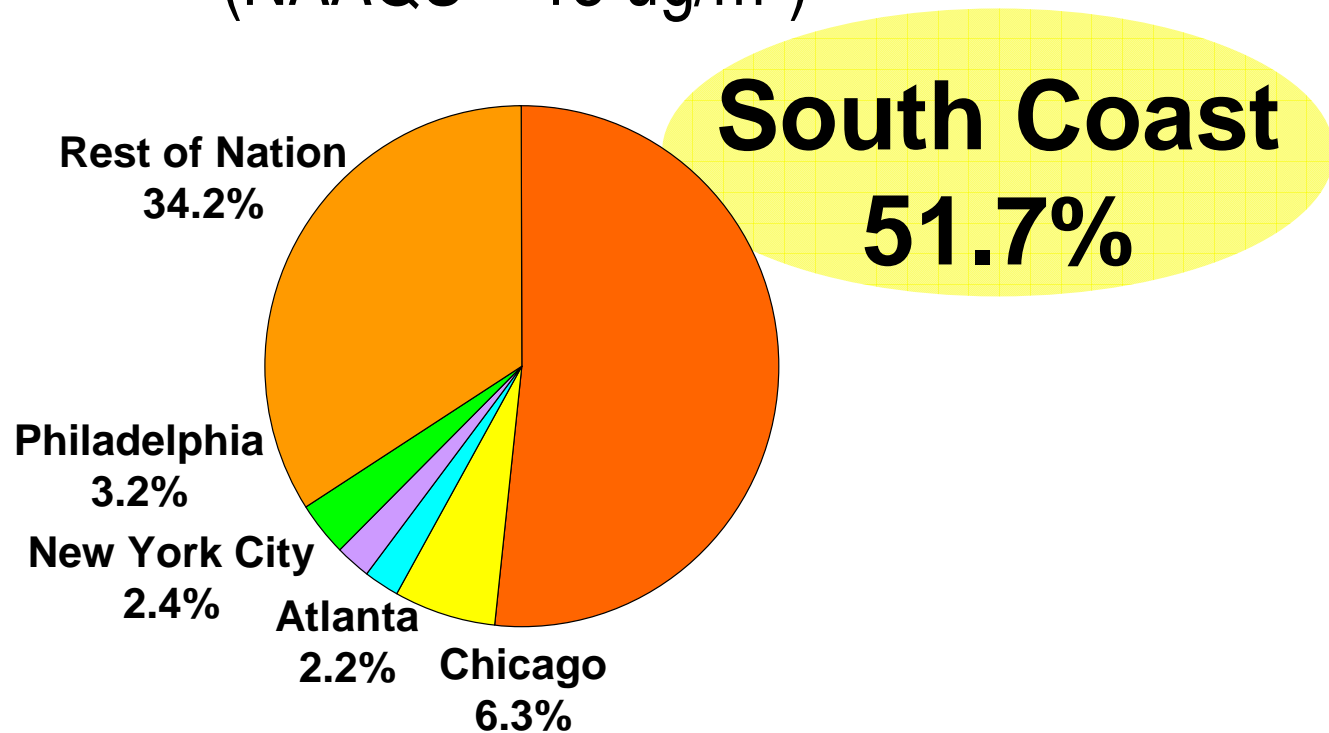
8 Hour Ozone
(NAAQS = 0.08 ppm)



Population-weighted exposures above the NAAQS, based on 2000-02 AIRS data

SCAB's Disproportionate Air Pollution Exposure (cont.)

Annual Average PM2.5
(NAAQS = 15 ug/m³)



Population-weighted exposures above the NAAQS, based on 2000-02 AIRS data

Recent CARB Assessment of PM Health Effects



Cases/Year due to PM2.5 in South Coast*

Premature Deaths	5,400
Hospitalizations	2,400
Asthma & Lower Respiratory Symptoms	140,000
Lost Work Days	980,000
Minor Restricted Activity Days	5,000,000

* 1999-2000 Air Quality Data

Transition to
Sustainable
Mobility



- GHG
- Energy
- **Air Quality**

Technologies + Policies

AQMD Technology Portfolio

- Near-term to longer-term technologies
- “Planting many seeds” for future harvest
- Developing “Pathways”



Fuel Cell



Plug-in Hybrids



CNG



Heavy-Duty
Natural Gas

Advanced Technologies

Near-Term

- Aftertreatment
- Emulsified Diesel
- HD Natural Gas Engines
- Natural Gas Fueling Infrastructure
- Advanced Diesel Engines
- Hybrid Vehicles (Plug-in & Hydraulic)
- Gas to Liquid Fuel
- Renewables/Biofuels
- H2 Technologies & Refueling
- Fuel Cell Vehicles



Longer-Term

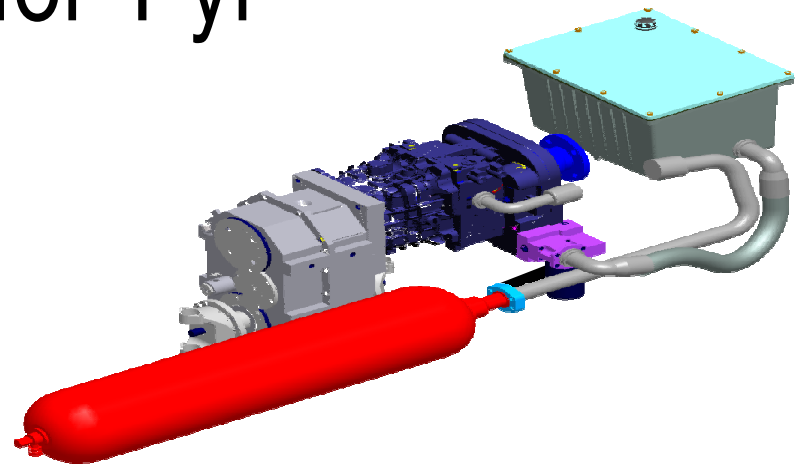
Great Interest in Hybrids

- Plug-in Hybrid 5 Year Action Plan
- Plug-in hybrids for light- and medium-duty
- Hybrid and Plug-in delivery vans
- Develop “pathways” for hybridization and identify near-term opportunities



Hydraulic Hybrid Project

- CalStart, Eaton, Complete Coach Works, Riverside Transit Agency
- Integrate and operate for 1 yr
- AQMD funding \$250k of total \$1.2M

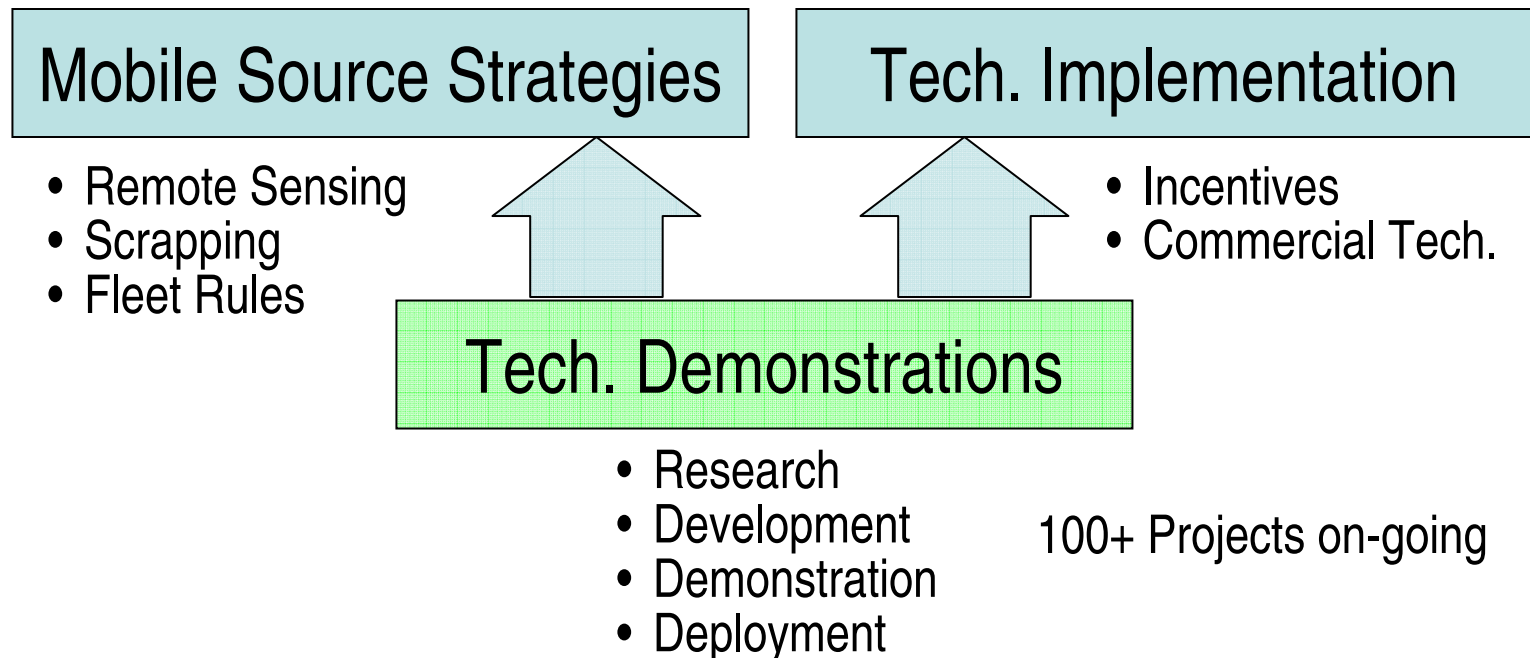


Funding Programs

- Precommercial
 - Clean Fuels Program
\$12M/year
- Commercial (verified/certified)
 - Carl Moyer
\$56M/year
 - Proposition 1B
\$250M/year statewide

Technology Advancement Office

- Established in 1988
- Co-Funds Projects to Develop, Demonstrate, and Commercialize Clean Air Technologies
- Program Organization:



Our Goals for the Forum

- Understand technology potential
- Identify areas of application
- Identify opportunities for leveraging our funding
- Establish partnerships for development

