

Proposed List of Measures to Reduce Particulate Matter PM10 and PM2.5

(Implementation of Senate Bill 656, Sher, 2003)

November 18, 2004

California Environmental Protection Agency



Air Resources Board

Particulate Matter Air Pollution

- PM is one of the most formidable health issues today
- Most of California at times experiences unhealthy levels of PM
- SB 656 enacted to require additional controls to reduce PM



Overview

- SB 656 requirements
- List of measures
- ARB role
- Implementation process

SB 656 Requirements

Major Milestones

- **By January 1, 2005:** ARB, in consultation with air districts must develop and adopt a list of measures for reducing PM
- **By July 31, 2005:** Air districts must adopt implementation schedules for appropriate measures
- **By January 1, 2009:** ARB must prepare a report describing actions taken

Criteria for List Development

- Identify most readily available, feasible, cost-effective measures
- Use measures adopted in California as of January 1, 2004
- Consider specified source categories
- Include measures for directly emitted PM and precursor pollutants
- Include air district and public consultation

List of Measures

Summary of ARB Measures

- Summary of adopted and proposed measures:
 - Measures adopted through January 1, 2004
 - Future proposed measures
 - Diesel Risk Reduction Program
 - Board adopted 2003 Statewide Strategy

Summary of ARB Categories

- Vehicles: cars, trucks, buses
- Recreational vehicles:
motorcycles, boats
- Equipment: construction,
lawn and garden
- Consumer products: hairspray,
cleaners, aerosol paints
- Smoke management



Summary of ARB Categories (continuation)

- Extending use of California diesel fuel for locomotives and harborcraft
- Diesel PM Sources:
 - Truck and school bus idling
 - Engines used in power generators, pumps, dredging equipment
 - Solid waste collection vehicles
 - Transport refrigeration units



List Development Process

- Comprehensive look at air district rules
- Applied statutory criteria
- Evaluated rule applicability for PM
- Identified measures with best level of control
- Included representative rules
- Categorized measures

Public Process

- Held public workshop
- Provided draft list for public comment
- Worked with air districts through CAPCOA
- Sought input from business, agricultural, and environmental stakeholders

Air District List Categories

- Residential Wood Combustion
- Non-Agricultural Open Burning
- Fugitive Dust
- Stationary and Area Sources such as combustion and coatings
- Spare the Air and Incentive Programs

ARB Role

Resources for Air Districts

- To support development of implementation schedules, ARB developed:
 - Compilation of available cost-effectiveness information
 - Characterization of ambient PM by air district
 - Proposed set of basic measures for different types of PM problems

Cost-Effectiveness Information

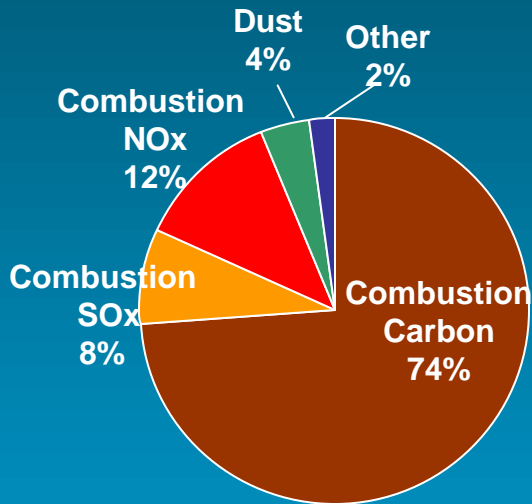
- Summary of control measures by cost-effectiveness ranges
- Reported cost-effectiveness
- Clearinghouse on cost-effectiveness

PM Characterization

- Severity of PM10 and PM2.5 problem
- Linking sources with PM
- Monitoring data gives us information on:
 - Secondary portion
 - Seasonal variations
 - Hourly variations
 - Chemical composition
- ARB report being updated

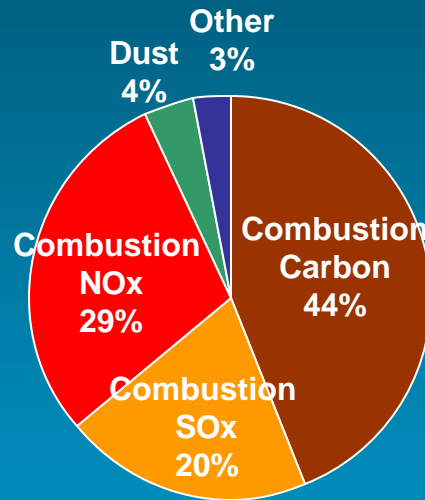
Air District PM2.5 Problem Types

Chico



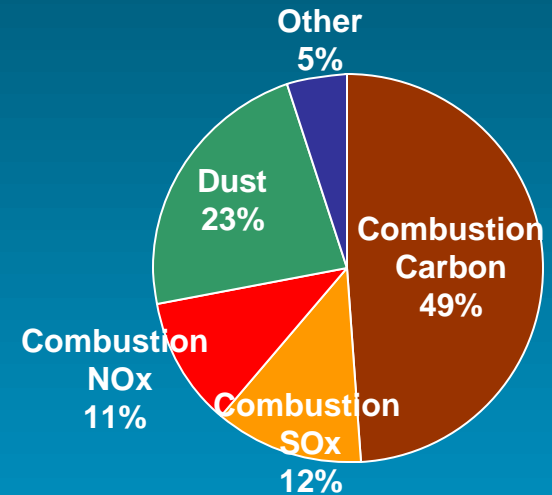
Woodsmoke dominated

Simi Valley



Combustion dominated

Calexico



Combined fugitive dust and combustion

Measures by PM2.5 Problem Type

- **Smoke:** wood-burning,
- **Dust:** roads, construction
- **Direct combustion:** charbroiling
- **Secondary PM:** combustion sources



Implementation Process

Air District Activities

- Select appropriate subset of measures:
 - Prioritize based on nature and severity
 - Evaluate cost-effectiveness and feasibility for district sources
 - Integrate with ongoing regulatory efforts
- Conduct public workshop
- Adopt implementation schedule for selected measures by July 31, 2005 at a public hearing

ARB Ongoing Commitment

- Continue working with air districts on the development of implementation schedules for air district measures
- Develop fact sheet on implementation process

Additional Public Comments

- Emphasize that districts can select and prioritize measures from the list
- Districts should enforce existing measures to ensure public health benefits

Additional Measures

- Based on ongoing discussions with the districts, we added:
 - **SCAQMD 1109**: Limits NO_x emissions from petroleum boilers and process heaters
 - **SCAQMD 1158**: Limits PM₁₀ emissions from storage, handling, and transport of petroleum coke, coal, and sulfur
 - **SCAQMD 1119**: Limits SO_x emissions from petroleum coke calcining operations

Recommendation

Adopt the proposed list of air district measures with modifications to reduce particulate matter (PM10 and PM2.5)