



Fact Sheet

California Environmental Protection Agency

 **Air Resources Board**

Reducing Particulate Matter in California – Implementation of Senate Bill 656

Background

- Reducing particulate matter (PM) air pollution is one of the California's highest public health priorities. PM consists of very small liquid and solid particles suspended in the air. Particles smaller than 10 microns in size are known as PM₁₀, while the very smallest particles less than 2.5 microns in size are known as PM_{2.5}.
- Exposure to PM is linked to increased frequency and severity of asthma attacks, pneumonia and bronchitis, and even premature death in people with pre-existing cardiac or respiratory disease. Infants and children, the elderly, and persons with heart and lung disease are most sensitive to the effects of PM.
- The ARB (Air Resources Board) and the U.S. Environmental Protection Agency have adopted health-based standards for PM₁₀ and PM_{2.5}. California's standards are the most health-protective in the nation, and are designed to provide additional protection for the most sensitive groups of people.
- Virtually the entire State exceeds the State PM₁₀ standard, with most urban areas and several isolated sub-areas also exceeding the State PM_{2.5} standard. The San Joaquin Valley, the South Coast, and several desert areas also exceed the federal PM₁₀ standard. Areas exceeding the federal PM_{2.5} standards include the San Joaquin Valley and the South Coast.
- The sources contributing to PM problems in different areas of the State are very diverse. In some areas, specific source types are a major part of the problem, ranging from windblown dust to residential wood combustion. In other areas of the State, particularly in urban areas, many different sources are significant, reflecting various urban activities ranging from paved road dust and wood burning, to motor vehicles, diesel engines and other combustion sources.

Requirements to Reduce PM

- In 2003, the Legislature passed Senate Bill 656 to reduce public exposure to PM₁₀ and PM_{2.5}. The legislation requires the ARB, in consultation with local air pollution control and air quality management districts (air districts), to adopt a list of the most readily available, feasible, and cost-effective control measures that could be implemented by air districts to reduce PM₁₀ and PM_{2.5}.
- The legislation establishes a process for achieving near-term reductions in PM throughout California ahead of federally required deadlines for PM_{2.5}, and provides new direction on PM reductions in those areas not subject to federal requirements for PM. Measures adopted as part of SB656 will complement and support those required for federal PM_{2.5} attainment plans due in 2008, as well as for State ozone plans. This will ensure continuing focus on PM reduction and progress towards attaining California's more health protective standards.

- This list of air district control measures was adopted by the ARB on November 18, 2004. ARB also developed a list of state PM control measures for mobile and stationary sources, including measures planned for adoption as part of ARB's Diesel Risk Reduction Plan. The lists can be found at the following web site:

<http://www.arb.ca.gov/pm/pmmeasures/pmmeasures.htm>

- Over 100 possible air district measures covering a broad spectrum of sources are listed. Sources categories include measures to address residential wood combustion and outdoor greenwaste burning; fugitive dust sources such as paved and unpaved roads and construction; combustion sources such as boilers, heaters, and charbroiling; solvents and coatings; product manufacturing; and spare-the-air and other air pollution reduction incentive programs.

Next Steps

- Air districts must now develop implementation schedules by July 31, 2005. The implementation schedules will identify a subset of measures from the list that are appropriate to the nature and severity of the PM problem in their area.
- Each air district will prioritize measures from the list based on the effect measures will have on public health, air quality, emission reductions, and cost-effectiveness. These local measures will build upon programs adopted by ARB as part of ongoing statewide efforts.
- Due to the special emphasis on reducing diesel PM exposure, ARB encourages air districts to take full advantage of programs to reduce diesel PM emissions, such as incentive funding to replace diesel engines, and enforcement of school bus and heavy-duty vehicle idling restrictions.
- As a starting point for selecting measures, suggested basic measures for different types of PM problems are presented in the attached table. However, air districts with more severe or specialized PM problems may also need to evaluate measures from the comprehensive list.
- To assist air districts, the ARB has also prepared a characterization of the nature of the PM problem in each area of the State. This document can be found at:

<http://www.arb.ca.gov/pm/pm.htm>

- A general fact sheet on PM can also be found at:

<http://www.arb.ca.gov/research/aaqs/pm/pm.htm>

How to Participate in the Process

- Over the next six months, air districts will be developing their implementation schedules that will include a listing of PM control measures proposed for adoption pursuant to this legislation. As part of this process, they must hold at least one public workshop, and adopt the implementation schedule at a public meeting. Public participation in this process is encouraged. Your local air district can be contacted for more information. A list of local air districts can be found at:

<http://www.arb.ca.gov/capcoa/roster.htm>

If you have special accommodation or language needs, please contact the Air Resources Board Coordinator at (916) 323-4916. TTY/TDD/Speech-to-Speech users may dial 7-1-1 for the California Relay Service.

The energy challenge facing California is real. Every Californian needs to take immediate action to reduce energy consumption. For a list of simple ways you can reduce demand and cut your energy costs, see our Website: <http://www.arb.ca.gov>.

Proposed Set of Basic Air District Measures for Different Types of Particulate Matter Problems

PM Problem Type	Measures
Smoke from Wood-Burning Fireplaces and Heaters	<ul style="list-style-type: none"> ▪ Establish a public awareness program; ▪ Set a voluntary curtailment during periods with predicted high PM levels (or update to mandatory); ▪ Require all woodstoves and fireplace inserts installed be U.S. EPA certified or equivalent; ▪ Limit number of wood-burning fireplaces and heaters in new developments; ▪ Replace non-certified units upon property sale; ▪ Control wood moisture content; ▪ Prohibit burning of materials not intended for use in wood-burning appliance.
Smoke from Non-Agricultural Burning	<ul style="list-style-type: none"> ▪ Establish mandatory curtailment during periods with predicted high PM levels; ▪ Set performance standards for allowed burns.
Dust from: <ul style="list-style-type: none"> ▪ Construction ▪ Paved Roads ▪ Unpaved Roads ▪ Windy Conditions ▪ Agricultural Operations 	<ul style="list-style-type: none"> ▪ Establish requirements for earthmoving, demolition, and grading operations (e.g., applying water or chemical stabilizers/dust suppressants). ▪ Establish requirements for new and modified public and private roads (e.g., paved shoulders, curbing, chemical suppressants); ▪ Establish requirements for sweeping existing roads. ▪ Set control requirements for unpaved roads (e.g., watering, graveling, applying suppressants, vegetating, paving, setting speed limits). ▪ Establish requirements to suppress windblown dust from construction/earthmoving operations, disturbed areas, and bulk material storage piles (e.g., ceasing active operations, watering, applying chemical stabilizers). ▪ Set requirements for agricultural sources (e.g., treating unpaved roads, watering, and other dust-reducing measures).
Direct PM from Combustion Sources	<ul style="list-style-type: none"> ▪ Set requirements for commercial charbroiling operations (e.g., emission control device).
Direct PM from Sources Not Covered under Any Other Specific Rule	<ul style="list-style-type: none"> ▪ Set visible emission limits (e.g, opacity). ▪ Set PM emission limits from combustion sources.
Ammonium Nitrate (NOx measures)	Set NOx emission limits for: <ul style="list-style-type: none"> ▪ Boilers, steam generators, process heaters, turbines, and IC engines; ▪ Residential central furnaces and water heaters.
Ammonium Nitrate and Secondary Organic Aerosols (VOC measures)	<ul style="list-style-type: none"> ▪ Set requirements for architectural coatings (e.g., limiting VOC content in coatings). ▪ Set VOC emission limits from solvent use (e.g., limiting VOC content of products used, through operation requirements).