

**SACRAMENTO METROPOLITAN AIR QUALITY
MANAGEMENT DISTRICT**

For Agenda of **April 27, 2006**

To: Board of Directors
Sacramento Metropolitan Air Quality Management District

From: Larry Greene
Air Pollution Control Officer

**Subject: Project SEED (Solutions for the Environment and Economic Development)
Funding Allocation**

Recommendation

Approve the attached Resolution authorizing the District to use an alternative approach to the selection of projects to receive funds from the District's Solutions for the Environment and Economic Development (SEED) bank.

Executive Summary

SEED is a bank of emission reduction credits that are leased to local businesses for a fee. Revenues from the leasing of credits are used to replenish the bank with innovative new credits.

Awards of SEED funding are normally done through a Request for Proposal (RFP) process. Rule 205 provides for an alternative funding process if the District's Board of Directors (Board) determines that there is a need to fund certain pollution reducing programs. Staff proposes using the SEED funds to help offset the cost to home owners of replacing wood burning appliances, such as wood stoves and fireplaces, with new stoves or fireplace inserts that meet the Environmental Protection Agency's (EPA) standards. If this request is approved, then staff will return to the Board in June with a proposal for a wood burning appliance replacement program.

Staff recommends an alternative funding process for the following reasons:

- 1) Sacramento County violates the state health based air quality standards for both fine and coarse particulate matter. Sacramento County will also likely violate the proposed federal air quality standards for fine particulate matter. The highest particulate matter concentrations occur during the winter and 44% of direct PM emissions come from wood smoke.
- 2) Particulate matter causes serious adverse health impacts including nonfatal heart attacks and premature death in people with heart or lung disease. Particulate pollution can also harm otherwise healthy children and adults;
- 3) Emissions from certified clean wood burning appliances can be up to 70% less than emissions from existing uncontrolled fireplaces and wood stoves;
- 4) The SEED program is intended to provide funding for innovative emission reduction strategies. Small scale rebate programs have been tried elsewhere with varying success. Staff intends to use this funding to develop a pilot program tailored to Sacramento's needs and investigate opportunities for cost sharing and stable future funding sources. One such funding source may be mitigation fees the District receives from CEQA projects to reduce air quality impacts of new developments.
- 5) The RFP process is not suited to the granting of a large number of awards to many individual applicants;

- 6) To achieve all of the following desired program elements, it is necessary to develop a cooperative program with several public and private organizations in order to:
 - a. Obtain competitively priced replacement of woodstoves;
 - b. Install woodstove inserts into fireplaces;
 - c. Target replacements in environmental justice areas, if appropriate; and
 - d. Target increased incentives for low income individuals.
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Background

Rule 205 requires that the district use SEED funds generated from the emission reduction credit loans from the Community Bank and Priority Reserve Bank to fund innovative emission reduction programs. The emission reductions realized from the program are deposited in the Community Bank. Selection of projects is generally done through a RFP process. The programs submitted for funding are ranked by a list of factors such as cost effectiveness, emission reduction potential, and technical feasibility.

By June of each year, staff is required to prepare and publish a RFP to solicit programs for the development or continuation of innovative emission reduction credits. The submitted projects are ranked and the recommended projects are presented to the Board for approval in October of each year. Section 318.5 of Rule 205 also allows the Board to grant funds to emission reduction projects that were not identified through the RFP process. The District used this alternative once before to fund agricultural pumps.

The Air Pollution Control Officer recommends that the Board use SEED funds to encourage the replacement or retrofit of uncertified residential woodstoves and fireplaces. These uncertified appliances emit significant levels of particulate matter. There are USEPA-certified woodstoves and also pellet stoves that emit significantly less than uncontrolled woodstoves.

In developing this program, staff will review woodstove change out programs implemented by other Districts in California and nationally. Staff has already been working with local hearth products vendors and associations, nonprofit organizations such as the Community Resource Project, and local utility districts to begin to scope this program. At this point, staff anticipates developing a multi-year program that will be dependent on funding availability.

The District currently has \$673,000 in the SEED account.

Health Impacts of Wood Smoke

Wood smoke is generated from the incomplete combustion of burning of wood in wood stoves and fireplaces. Analysis of wood smoke showed that it contains byproducts such as fine particulate matter generally less than 2.5 microns in size, carbon monoxide, nitrogen dioxide, sulfur dioxide, hydrochloric acid, and formaldehyde. The analysis also showed that wood smoke contains chemicals known or suspected to be carcinogens, such as polycyclic aromatic hydrocarbons (PAHs) and dioxin. These fine particles contained in wood smoke are drawn deep into the lungs and are retained for a long period of time.

Both coarse (PM₁₀) and fine (PM_{2.5}) particulate are linked to serious health impacts, including premature mortality, acute and chronic bronchitis, asthma attacks and emergency room visits, upper respiratory illnesses, and days with work loss. Exposure to particulate pollution is particularly dangerous for sensitive groups including, but not limited to, the elderly, individuals with asthma and other lung illnesses, infants, and children. Particulate matter is a complex

mixture of chemicals. Some particulates, like diesel smoke, are carcinogenic or otherwise considered toxic.

District Particulate Attainment Status

State Standards: Sacramento County exceeded the state's annual PM10 standard by about 40% and the annual PM2.5 standard by 4% on average over the past 5 years. In addition, the District exceeded the state 24-hr PM10 standard up to 14 days per year during the past 5 years.

Federal Standards: The District is currently in attainment for the federal PM10 and PM2.5 standards. As was discussed at the January 2006 Board Hearing, USEPA issued proposed revisions to the national air quality standards for particulate matter pollution. The new federal standards are based on a range of newly available health information detailing the health impacts of particulate matter pollution. A consent agreement requires that USEPA issue final standards by September 27, 2006.

If proposed revisions to the federal standards for fine and coarse particulate matter pollution are finalized, Sacramento County may be nonattainment for the fine standard.

The largest emission sources of particulate matter emissions in the District inventory are combustion sources (including motor vehicles), wood burning, and cooking. Fugitive dust sources also make up a substantial portion of the PM10 inventory, although ambient monitoring data suggests that the fugitive dust contribution at the monitoring site is smaller than what is directly emitted. Wood smoke contributes 44% of the directly emitted particulate matter in the winter time.

In the Sacramento area, there is a seasonal variation in PM, with higher PM10 and PM2.5 concentrations in the fall and winter months. In the winter, PM10 and PM2.5 concentrations can remain elevated for extended periods. Increased activity for some emission sources (e.g., wood combustion in stoves and fireplaces) and typical winter meteorological conditions are conducive to the buildup of PM.

Regulatory Requirements to Reduce Particulate Emissions

In 2003, the California Legislature enacted Senate Bill 656 (SB 656, Sher, Health and Safety Code Section 39614) to reduce adverse health impacts, including development of lung and heart disease and premature death from exposure to particulate matter (PM) levels above the state ambient air quality standards. SB 656 required the California Air Resources Board (CARB) to develop a list of the most readily available, feasible, and cost-effective control measures to reduce PM emissions. The CARB list is based on California rules and regulations existing as of January 1, 2004, and was adopted by CARB in November 2004. Subsequently, under SB 656, each air district was required to prioritize the measures identified by CARB, based on the cost-effectiveness of the measures and their effect on public health, air quality, and emission reductions.

In July 2005, Staff proposed to the Board an implementation schedule for particulate control measures. The schedule sets dates ranging from 2006 – 2012 for the District to complete further study of each measure. Staff is currently in the process of developing a new regulation that will apply to residential wood burning appliances.

Members of the Sacramento City Council proposed an ordinance to regulate residential wood burning, and presented it to the Law and Legislation Committee. The committee decided not to pursue an ordinance until the District acts. At the request of the City Council, the District has agreed to propose several of the wood burning measures for adoption this year, ahead of the original SB 656 implementation schedule. These measures include requirements for wood burning appliances in new construction, prohibitions on the burning of garbage, and a moisture standard for wood that is advertised as "seasoned" or "dry."

In addition, the District is in the process of expanding the Spare the Air program to include the winter season. The wood stove/fireplace changeout program is an important part of the District's overall strategy to address particulate matter pollution.

Conclusion

Staff recommends that the Board approve the request to develop a program to use SEED funds to encourage wood stove and fireplace replacements. The replacements and retrofit of high emitting residential wood burning appliances will reduce particulate matter emissions in the District and therefore positively impact the health of residents in Sacramento County. Staff will return to the Board in June with program details.

Respectfully submitted,

Larry Greene
Air Pollution Control Officer
Sacramento Metropolitan
Air Quality Management District

Approved as to form:

Katherine Pittard
District Counsel
Sacramento Metropolitan
Air Quality Management District

Attachment: Resolution

RESOLUTION NO. AQM_____.
BOARD OF DIRECTORS
OF THE SACRAMENTO METROPOLITAN AIR QUALITY
MANAGEMENT DISTRICT

WHEREAS, the Board of Directors of the Sacramento Metropolitan Air Quality Management District adopted Rule 205, COMMUNITY BANK AND PRIORITY RESERVE BANK, and, under the rule, the Board annually approves the use of Solution for the Environment and Economic Development funds for innovative emission reduction projects; and

WHEREAS, Rule 205, Section 318.5 authorizes the District Board of Directors to fund emission reduction programs that meet the actual emission reduction criteria of Rule 204, EMISSION REDUCTION CREDITS, without conducting a RFP process, and

WHEREAS, the Air Pollution Control Officer has recommended that the Board develop a program to use SEED funds to encourage the replacement of uncertified residential wood burning appliances with cleaner certified devices to reduce particulate matter concentrations that currently exceed the state health based ambient air quality standards for PM10 and PM2.5.

NOW, THEREFORE, BE IT RESOLVED THAT the Board of Directors of the Sacramento Metropolitan Air Quality Management District authorizes and directs Staff to proceed with the development of the residential wood burning appliances changeout program.

BE IT ORDERED that, pursuant to Rule 205, Section 318.5, the Board of Directors of the Sacramento Metropolitan Air Quality Management District approves Staff request to proceed with the residential wood burning appliances changeout program be effective April 27, 2006.

ON A MOTION by Director _____, seconded by Director _____, the foregoing resolution was passed and adopted by the Board of Directors of the Sacramento Metropolitan Air Quality Management District, State of California, this 27th day of April 2006, by the following vote, to wit:

AYES: Directors

NOES: Directors

ABSENT: Directors

Chairperson of the Board
Sacramento Metropolitan Air
Quality Management District
State of California

(SEAL)

ATTEST: _____
Clerk of the Board
Sacramento Metropolitan Air Quality Management District