

## **PM<sub>2.5</sub> Wood Smoke Attainment Strategies – Residential Wood Smoke Program**

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Many areas across the country are in nonattainment for the PM<sub>2.5</sub> NAAQS due to wintertime wood smoke. OAR/OAQPS is pursuing a comprehensive five-part strategy to help these areas:

### **Great American Woodstove Changeout Program**

OAQPS/OAR is working with the hearth products industry and others to help state, local, and tribal agencies create campaigns to promote replacement of old wood stoves with new, cleaner-burning appliances. The effort focuses on areas at or near nonattainment for PM<sub>2.5</sub> due to wood smoke. Through 2009, the program has helped replace over 13,000 woodstoves/fireplaces in 45 areas. This has reduced an estimated annual total of 248 tons of PM<sub>2.5</sub>, providing approximately \$84 to \$200 million in estimated annual health benefits.

### **Outdoor Wood-Fired Hydronic Heater Program**

Initiated in 2007, this partnership reduces emissions from new outdoor wood-fired hydronic heaters, which helps areas with PM<sub>2.5</sub> air quality problems. EPA has worked with industry to reach agreement on voluntary performance levels for new heaters to bring them to market faster than feasible under regulation. As of 2009, nearly 7,400 EPA-qualified units have been sold; 20 manufacturing partners have agreed to produce units 70%-90% cleaner; and 22 models have been placed on the market, reducing an estimated annual 4,123 tons of PM<sub>2.5</sub> emissions and providing approximately \$1.4 to 3.4 billion in estimated annual health benefits. EPA plans to propose revisions to the existing New Source Performance Standard (NSPS) for wood stoves, including adding outdoor heaters and fireplaces. If this expansion is made final in regulation in the new NSPS, the outdoor heater voluntary program will be unnecessary.

### **Wood-Burning Fireplace Program**

The EPA voluntary Wood-burning Fireplace Program is modeled after the Hydronic Heater Program and will help reduce wood smoke emissions growth in areas with PM<sub>2.5</sub> air quality problems. The 2-phased program covers low mass (i.e., pre-manufactured) and masonry fireplaces and is expected to drive technology improvements faster than regulation. The program will qualify models achieving a Phase 1 (34% reduction) or a Phase 2 (54% reduction) PM<sub>2.5</sub> emission level. Eight fireplaces qualified for the program in the first year. The EPA has worked closely with the hearth products industry to develop the program. As noted above, if the NSPS's scope is expanded, the fireplace voluntary program will be unnecessary.

### **Burn Wise**

EPA's Burn Wise Campaign was launched in October 2009 to complement the programs listed above, particularly the changeout program. Changing out wood stoves is part of the solution to wood smoke problems; how wood stoves are operated and what is burned are also important. The campaign is designed to promote responsible wood-burning and to educate users on the connection between what they burn, how they burn, and the impacts on their health and the environment. The campaign provides a website ([www.epa.gov/burnwise](http://www.epa.gov/burnwise)), fact sheets, and PSAs. We have coordinated with the hearth products industry on the development and implementation of the campaign.

### **Innovative Financing Mechanisms**

State and local governments addressing air quality problems are seeking mechanisms to finance wood stove replacement. One such program OAQPS is promoting is Voluntary Environmental Improvement Bonds (VEIB) that can make it more affordable for property owners to adopt environmental improvements. In a VEIB program, local government and property owners agree to voluntary contracts to pay for cleaner appliances. Local governments lend property owners money to purchase and install the appliance. Local governments fund loans through issuance of bonds, called "VEIB." Property owners repay the loan along with property tax bills. Implementation of VEIB programs could help many "nonattainment" areas comply with the NAAQS for fine particle pollution and reduce air toxics.