



# Changeouts



## The Great American Wood Stove Changeout Program

**Background:**  
EPA is partnered with the Hearth, Patio & Barbecue Association, the American Lung Association and others to help local agencies replace inefficient wood stoves and retrofit fireplaces with cleaner-burning technologies like gas, wood pellet, and EPA-certified wood stoves. This partnership program is called "The Great American Wood Stove Changeout". It can effectively reduce fine particle (PM<sub>2.5</sub>) pollution and air toxics and help bring areas into attainment with the national PM<sub>2.5</sub> standard. Residential wood burning in the U.S. emits 420,000 tons of PM<sub>2.5</sub> pollution each year.

- Benefits of Replacing Inefficient Wood Stoves:**
- Reduces fine particles and toxic air pollution by 70%
  - Reduces indoor PM<sub>2.5</sub> emissions by 55% - 70% according to U. Montana
  - Improves energy efficiency by 50%, using 1/3 less wood
  - Climate change benefits (reduction in methane, black carbon and CO<sub>2</sub>) from improved combustion efficiency and use of less fuel wood
  - Changing out 25 inefficient wood stoves will result in reducing 1 ton of fine particles/year
  - To date, over 13,000 wood stoves and fireplaces changed out in more than 45 communities, approximately 248 tons of PM reduced/year, & an estimated \$84 million/year of health benefits
  - Replacing all 9 million old, dirty stoves in the U.S. would reap \$35 billion in health benefits each year

■ Changing out 1 inefficient wood stove is equivalent to the PM<sub>2.5</sub> emission reductions of taking 5 diesel buses off the road

### Major Wood Stove and Fireplace Changeout Events 2005-2009:

- Lincoln County/Libby, Montana**
- Replaced 1100 wood stoves
  - \$1 Million donated by industry, \$100K from EPA, \$50K state
  - Data shows significant improvement in outdoor air quality & 70% PM 2.5 improvement indoors
- Sacramento, California**
- To date has replaced more than 3,200 old wood stoves and dirty fireplaces
  - Provided incentive funds of up to \$3,500/homeowner, total funding is \$1.5 million
  - Hearth industry has provided additional discounts
- Michigan**
- Replaced more than 500 wood stoves
  - \$100K EPA grant and \$100K from state pollution prevention program
  - Up to \$600 cash incentives, included \$100 - \$300 discounts from industry

### Wood Stove Changeout Programs

Since 1991, the hearth industry has promoted the replacement of old wood stoves and inserts with *any* cleaner hearth product – wood, pellet, gas or electric. Across the United States, from the small towns like Keene, New Hampshire, to entire regions of the country, such as the Great Lakes states, HPBA has led the way in partnering with the EPA, states, regions and localities on programs to encourage the replacement of old, highly polluting, non-EPA-certified wood stoves with our newer and Greener products. But don't take our word for it; read what the EPA's Burn Wise website ([www.epa.gov/burnwise](http://www.epa.gov/burnwise)) says:

"Approximately 10 million wood stoves are currently in use in the United States, and 70 to 80 percent of them are older, inefficient, conventional stoves that pollute. Because EPA-certified wood stoves emit approximately 70 percent less pollution than older, conventional wood stoves, a successful changeout campaign will reduce local particulate emissions... Just 20 old non-EPA-certified wood stoves can emit more than 1 ton of fine particles into your area during the cold months of the year."

Today's wood stove models feature improved safety and efficiency. They produce almost no smoke, minimal ash and require less firewood. While older uncertified stoves release 15 to 30 grams of smoke per hour, new EPA-certified stoves produce only 2 to 7 grams of smoke per hour. Be sure to look for the EPA certification label on the back of the stove.

For more information on changeout programs, please visit the "Changeout Guide" section of EPA's Burn Wise website (<http://www.epa.gov/burnwise/how-to-guide.html>).

EPA has invested \$1,200,000 in wood stove changeouts in recent years, while individual homeowners and our public & private partners have invested nearly \$13 million.

### Additional Locations Participating in Changeouts/Fireplace Retrofits 2005-2009:

- o Yolo-Solano, CA\*
  - o Butte County, CA\*
  - o Placer County, CA\*
  - o Bay Area, CA\*
  - o Shasta Co., CA\*
  - o San Joaquin, CA\*
  - o Yolo Sololano, CA\*
  - o Delta County, CO
  - o Preston, ID\*
  - o Pinehurst, ID\*
  - o Nez Perce Tribe, ID
  - o Ravalli, Gallatin Co., MT\*
  - o Keene, NH\*
  - o Questa, NM
  - o Washoe County, NV\*
  - o Washington Co., OH \*
  - o Klamath Fall, OR\*
  - o Oakridge, OR\*
  - o Pendleton, OR\*
  - o SW Pennsylvania\*
  - o Christiansburg, VA
  - o State of VT
  - o Oneida Tribe, WI
  - o Darrington, WA\*
  - o Ferry and Steven Co., WA\*
  - o Lummi Tribe, WA
  - o Marysville, WA\*
  - o Tacoma, WA\*
  - o Pend Oriella Co., WA
  - o WA Spokane, WA\*
  - o Swinomish Tribe, WA
  - o Yakima, WA \*
  - o Whatcom/Island Co., WA
  - o Sublette Co., WY
- \*Areas facing annual and/or daily PM 2.5 non-attainment challenges.

**Supplemental Environmental Projects (SEP) and Mitigation Projects:** \$2,070,000 in funds negotiated to pay for clean stoves:

- 2 in Ohio: Dayton \$75K, Washington Co., \$245K
- 8 in WA State: 6 in Bellingham area, 2 in Spokane \$530K, 1 in Butte Co., CA 75K, 1 in El Dorado Co., CA \$55K
- 1 in NM: Questa \$100K, 1 in VA: Christiansburg \$45K, 1 in AZ: St. Johns \$750K

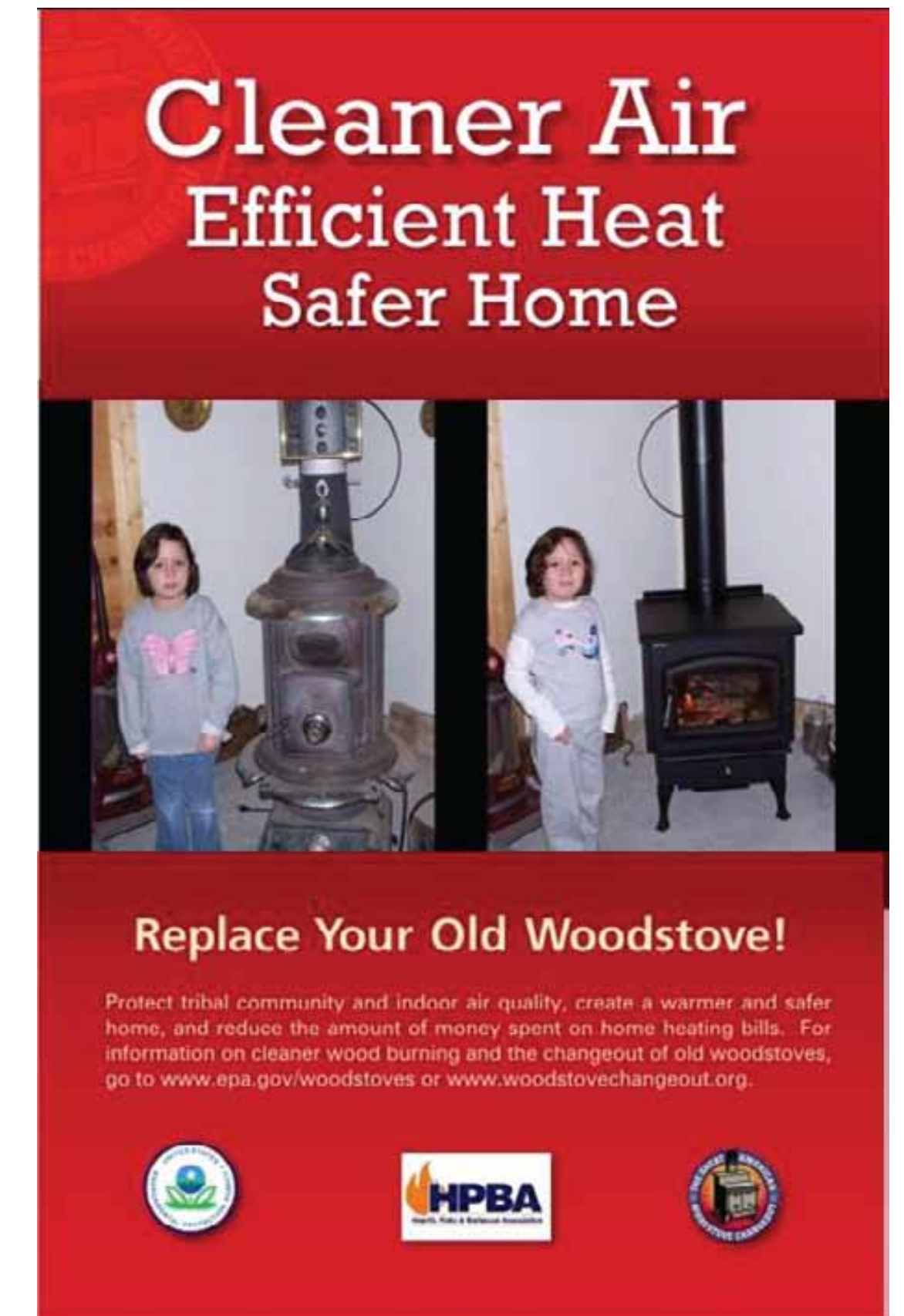
**Results:** 492 stoves replaced with SEP funds provided over \$5 M in annual health benefits

### Tools Available for States/Local/Tribes:

- Strategies for Residential Reducing Wood Smoke Resource Guide
- EPA Wood Stove and Fireplace Cleaner Burning Website ([www.epa.gov/burnwise](http://www.epa.gov/burnwise))
- Wood Stove Changeout "How to Guide" and example outreach materials
- Wood Stove Changeout Emissions Credit Guidance for State Implementation Plans
- "Burn Wise" fact sheet and brochure that focuses on tips for the public
- Case Studies
- Potential funding options for changeouts

### Feedback/Additional Information:

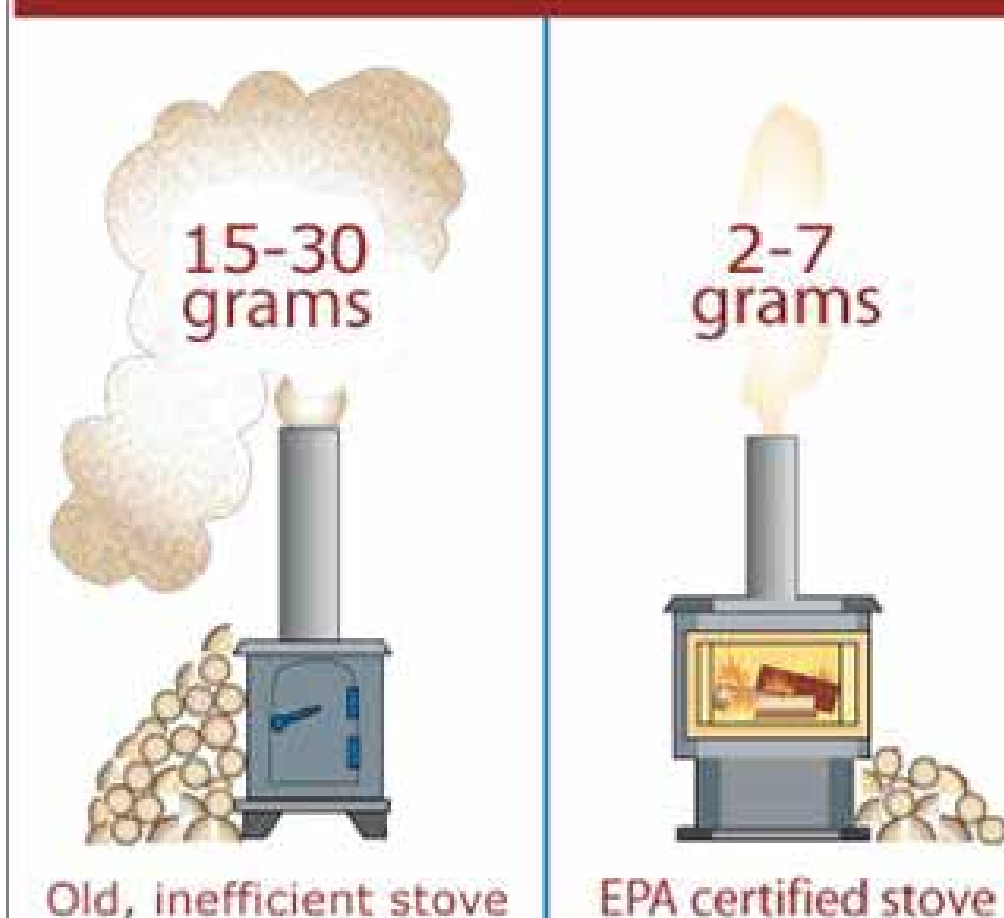
Contact Larry Brockman, [brockman.larry@epa.gov](mailto:brockman.larry@epa.gov), 919-541-5398 with comments, questions or suggestions. For more information go to [www.epa.gov/burnwise](http://www.epa.gov/burnwise). (Updated 1/7/10)



### Old "Conventional" Wood Stoves Built before 1990



### Fine particle emissions in one hour:



Certified stoves are 50% more energy efficient than non-certified stoves

### Goal – No Visible Smoke



Old Stove EPA-Certified Wood Stove

### How to Identify an EPA – certified Wood Stove

