



National Tribal Air Association's White Paper on the Wood Heater Emission Pilot Project for Indian Country

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I. The Wood Heater Emission Pilot Project for Indian Country White Paper Summary

An earlier proposal of the CARPER-MURKOWSKI Wood Heaters Emissions Reduction Act (WHERA) was to be a 5-year grant program to provide states, Tribal entities, and local governments access to competitive grants for wood heater changeout programs for their communities. This program would have set aside 4% for Indian Tribes and rural communities. The program's goal was to reduce air toxics pollution and particulate matter to protect public health and support American jobs. However, WHERA is no longer being considered in this year's budget process.

Nonetheless, NTAA believes that this an important effort for protecting public health and is crucial particularly in Indian Country. There is a large body of evidence that shows American Indians and Alaskan Natives (AI/AN) are disproportionately impacted by air pollution, that AI/AN adults and children alike have higher rates of asthma, and that AI/AN adults suffer higher rates of diabetes, heart disease and chronic obstructive pulmonary disorders than do other people of non-AI/AN descent. All these can be exacerbated by exposure to both indoor and outdoor wood smoke.

¹ Ms. McKelvey serves as a member of NTAA's Policy Advisory Committee (PAC). Thank you to fellow NTAA PAC member Bill Droessler from the Minnesota Environmental Initiative for his early input and providing content for this White Paper. For more information on the National Tribal Air Association, please visit www.ntaaTribalair.org.

Thus, a pilot effort to support changeouts modeled after WHERA would be appropriate to support and protect public health in Indian Country and identify and resolve issues common with other areas in the country to support future changeout programs.

II. Background

The US Census Bureau estimates that 11.5 million homes use wood as a primary or secondary heat source; 58% are in rural areas or in Indian Country. The EPA estimates that those 6 million residential wood heaters in operation today do not meet the 1988 EPA Clean Air Act emission standards, much less the current emissions standards implemented in 2015.

According to EPA, older, inefficient residential wood heaters can produce an unhealthy/deadly mix of particulate matter (PM), carbon monoxide, volatile organic matter (which contribute to ozone), and air toxics (such as benzene and formaldehyde). This pollution builds up in homes and the outside air. This contaminated air can trigger asthma attacks, lung damage, cancer, heart attacks and sometimes death. In addition, older inefficient wood heaters are among the largest emitters of PM. EPA data indicate that nation-wide, inefficient residential wood heaters emit five times more PM than the national petroleum refineries, cement manufactures, and pulp and paper plants combined. These adverse health impacts are true in some areas of Indian Country, where wood heaters are a major source of indoor and outdoor air pollution.

Fortunately, technology made and sold in the U.S. can dramatically reduce the pollution emitted from residential wood heaters. Wood heaters that meet EPA's emission standards emit at least 70% less PM and are far more energy-efficient than older heaters. Energy-efficient wood heaters mean less pollution, less fuel needed, and lower costs to consumers. EPA estimates that replacing just one old, inefficient wood heater is equivalent to taking five dirty diesel engines off the road.

Tribes have a long successful history of conducting changeout programs and improving public health but have struggled with no consistent funding source. For example, Tribes often must rely on Supplemental Environmental Projects (SEPs) from enforcement cases. Sometimes Tribes can use Grant 103 or 105 funding to support but not fully fund efforts.

It should be noted that non-wood-burning alternative appliances, such as ductless, should also be considered for the communities where that is appropriate.

III. Why a changeout pilot:

Large areas of Indian Country are rural, and there are special considerations for changeout programs that a pilot project can help identify and resolve with future programs. For example, there are often challenges finding providers and retailers that service rural Tribal communities. There is also a lack of certified installers, chimney sweeps, and technicians for maintenance within or near Tribal communities. Therefore, a pilot project can work to develop a training and job creation program that can support the Tribes and surrounding communities. In addition, many Tribal elders' homes need new wood heating devices and may also need additional financial and technical support for an upgrade to occur; because of the rural nature of many Tribal communities, alternative heat options may be limited for a program in Indian Country.

Finally, for example, resolution of safety issues, weatherization and other remediation may need to occur prior to the instillation of new wood heaters.

1. Woodstoves are a widespread form of home heating in Tribal households, but the benefits of affordability and accessibility, are outweighed by the profoundly detrimental impacts on human health and the environment.
2. American Indian/Alaska Natives are disproportionately impacted by air pollution with higher rates of asthma, respiratory issues, cancer, and other health issues that are exacerbated by wood smoke exposure. Research points to disproportionate pediatric health outcomes linked to chronic exposure to wood smoke. A pilot project in Indian Country can address these disproportionate impacts.
3. Replacing uncertified wood heaters is an evidence-based public health intervention with a high likelihood of broad adoption and therefore the ability to reduce wood smoke exposure and improve health outcomes.
4. Many areas of Indian Country are rural with special considerations for changeout programs that a pilot project can help resolve for future programs.
 - a. For example, finding stove providers, installers, and certified technicians that service rural Tribal communities can be challenging.
 - b. Certification trainings for stove installation, and chimney sweeping, home weatherization is needed for Tribal members.
 - c. Many Tribal members needing changeouts are elders and may need additional support. Switching to non-wood burning appliances may not be feasible for some Tribal communities. Thus, alternative heat options for changeouts may be limited.
5. As part of a successful changeout program additional support will be required including:
 - a. Education and outreach prior to the implementation of the program and after installation
 - b. Fuel supply support including providing dry wood through wood banks and building woodsheds.
6. Monitoring prior to and post changeout should be included to provide accountability and document success is needed for a pilot project
 - a. Indoor air quality monitoring for PM and indicators for air toxics
 - b. Outdoor air quality monitoring for PM
 - c. Wood stock burned before and after to demonstrate efficiency
7. If program included donated stoves there are additional needs such as providing for parts and replacement, transportation, and other special needs
8. Tribes have history of conducting successful changeout programs

- a. The Swinomish Indian Tribal Community conducted a multi-phase changeout program where they successfully changed out 120 stoves for community members. During the time of the changeout the PM2.5 concentrations, in the Truckee area of the reservation, were reduced approximately 30% from previous level, and at the same time as a 70% increase in development in the area occurred. Their studies also showed a dramatic reduction of indoor concentrations of PM and other elements of wood smoke.
- b. The Wisteqn'eemit & Nez Perce Tribe Air Quality Program received four stoves and developed an advisory committee, found additional funding support to assist with change-out costs and developed partnership. Their program also resulted in a 52% reduction of indoor PM concentrations.
- c. Red Feather Development Group is a non-profit organization, based out of Flagstaff, Arizona. The group partners with American Indian nations to develop sustainable solutions to the housing needs within their communities. During the short-term changeout program, they received 3 donated stoves and obtained additional funding for replacement costs.
- d. The Environmental Initiative based in Minneapolis, Minnesota received six stoves and found additional funding support to assist with changeout costs and developed partnerships.

IV. Support

Wood heater changeout programs expand the reach of proven, existing systems versus creating new technology. Changeout programs are both feasible and reasonable to implement, unlike other home energy retrofits which can be more expensive and or more intensive. The benefits of a changeout continue for decades past the life of the funding; clean wood heat yields economic, environmental, and public health benefits: green jobs, clean air, and healthier childhoods.

NTAA's work has support from the [Hearth, Patio and Barbeque Association](#), [American Lung Association](#), the [Red Feather Development Group](#), and the [Environmental Initiative](#).