



Washington County, Oregon

WOOD STOVE EXCHANGE

Let's clear the air.

YEAR SEVEN REPORT

July 1, 2022
through
June 30, 2023



INTRODUCTION



In 2016, Washington County Department of Health and Human Services and the Office of Community Development partnered to develop the Washington County Wood Stove Exchange program (WSE) to provide grants (full cost up to \$5,500) and rebates (\$1,500–\$4,000) to households that change to a cleaner heating source.

A 2014 Oregon DEQ survey of the Portland metro area determined that a major source of particulate matter (PM2.5 and PM10) pollution in Washington County is older and uncertified wood stoves. Older wood stoves produce an excessive amount of residential wood smoke, which negatively affects air quality, the local environment and residents' health. Wood stove change-out programs have proven to be an effective approach to reducing particulate matter pollution, especially in winter months.

The Wood Stove Exchange program is designed to:

- Reduce particulate matter pollution, resulting in better air quality and a healthier community.
- Potentially improve indoor air quality in homes with older wood stoves, reducing the symptoms of asthma and other respiratory conditions.
- Avoid public health and economic consequences of violating the federal Clean Air Act (i.e., nonattainment designation in Washington County).

The program's goals were set to serve up to 700 households, reduce wintertime occurrences of exceeding the national particulate matter standard, and reduce the annual average particulate matter concentrations.

These long-term outcomes require monitoring of particulates and pollutants over time to assess the effectiveness of the Wood Stove Exchange program.

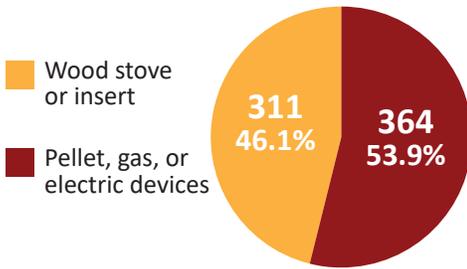
The program was impacted by COVID-19 and was suspended from late March 2020 to April 2021. Year seven is just the second year of regular program functions since resuming.

In year seven, outreach efforts were increased and included the county fair, multiple presentations, a Hillsboro News Tribune article, newsletters, Facebook posts, water bill inserts - and the WSE received 80 applications: a very good sign of continued interest from county residents.

The program completed 70 exchanges for a total to date of 675 new devices installed.

Replacement options mix of the 70 projects in year seven, 40 were Pellet/Gas/Electric devices, and were 30 Wood stoves/inserts.

NEW HEAT TYPE INSTALLED



Of the 675 completed exchanges, more than half of the participants continue to install new devices that use electric, gas or pellets (a lumber by-product). By offering electric, gas or pellet options, the program provides a greater reduction in wood smoke emissions than other wood stove change-out programs. In fact, the completed exchanges equate to a reduction in emissions from those specific sites of 97.4%.

The Project costs have risen in the last 2-3 years, with device and parts costs increasing due to inflation, metal tariffs, and global supply chain issues.

For these reasons, the grant amount and the rebate amount for incomes below area Median Family Income (MFI) were increased in 2022. For households with income below 80% of area MFI, the Grant amount was raised to \$5,500. And for households with income below 100% MFI (and above 80%), the Rebate amount was raised \$500 to \$4,000. The rebates of \$2,500 (>100% MFI) and \$1,500 (>120% of MFI) remained unchanged.

The average payout per completed project in the seventh year was \$4,259, due to higher costs and the increased grant and rebate amounts. In addition, the percentage of \$5,500 grant projects was larger this year than in previous years.

Leveraged incentives, tax credits, plus contractor and manufacturer discounts for the first seven years now totals \$138,372.

- Average leveraged dollars per replacement to date = \$506 per eligible project
- Current utility partners include the Energy Trust, NW Natural Gas, PGE, and Forest Grove Light & Power

Higher project costs for some rebate projects can be offset by the new Federal Clean Energy Tax Credit for new wood and pellet stoves and new heat pumps.

REDUCING EMISSIONS

After seven full years, the prevented emissions of particulate matter, pollutants, and gases from 675 replacements and 76 old stoves turned in amount to over 375 tons. Using the EPA emissions calculator, the specifics are:

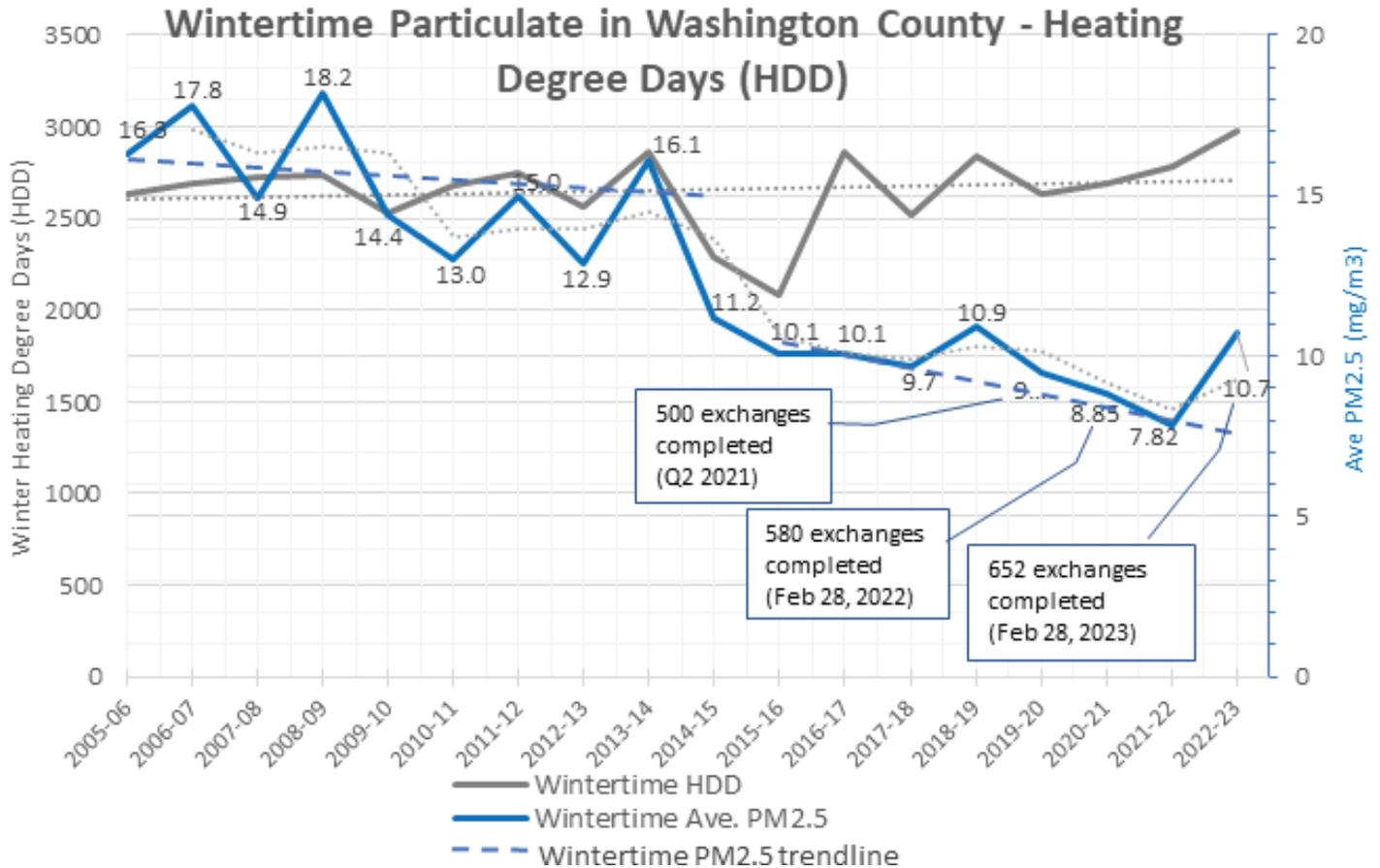
- 55.03 tons of PM_{2.5} and PM₁₀ emissions prevented
- 185.88 tons of carbon monoxide (CO) emissions prevented
- 72.20 tons of methane emissions prevented
- 50.67 tons of volatile organic compounds (VOCs) emissions prevented
- 9.19 tons of hazardous air pollutants (HAPs) emissions prevented
- 0.77 tons of sulfur dioxide (SO₂) emissions prevented
- 1.98 tons of nitrogen oxide (NOX) emissions prevented

Total emissions prevented: 375.73 tons

The program is also now calculating carbon dioxide emissions prevented. To date, the CO₂ emissions prevented total 2,420 tons.

WINTERTIME REDUCTION IN WOOD SMOKE PARTICULATE MATTER (PM2.5)

The chart below displays the average wintertime particulate matter (PM2.5) since 2005 and measured at the Hillsboro Hare Field DEQ monitor station. Of significance in the chart is the trend line showing continued decrease in wintertime particulate since 2015. This most recent winter was the coldest (by HDD) in 15 years, a possible cause for the increase in 2022-2023 wintertime wood smoke particulate.



The solid gray line denotes the heating degree day (HDD) averages for each year. The solid blue line shows the average wintertime (Nov. – Feb.) PM2.5. The gray dotted line depicts the average wintertime HDD over the last 17 seasons, consistently at about 2600 HDD. While the average particulate counts varied somewhat each winter from 2005-06 to 2013-14, the average HDD stayed fairly constant. The average wintertime particulate trended at 15-16 micrograms per cubic meter ($\mu\text{g}/\text{m}^3$). As the county began efforts in 2014 and 2015 to reduce smoke particulate, with the backyard burn ban ordinance, education on brush burning, seasonal limits to brush burning, and then the Wood Stove Exchange Program beginning in 2016, the wintertime particulate has dropped (trending from 10 to 8 $\mu\text{g}/\text{m}^3$) and continues on a downward trend.

NOTE: A definition of degree days and heating degree days as stated by the U.S. Energy Information Administration (EIA).

Degree days are measures of how cold or warm a location is. A degree day compares the mean (the average of the high and low) outdoor temperatures recorded for a location to a standard temperature, usually 65° Fahrenheit (F) in the United States. The more extreme the outside temperature, the higher the number of degree days. A high number of degree days generally results in higher levels of energy use for space heating or cooling.

Heating degree days (HDD) are a measure of how cold the temperature was on a given day or during a period of days. For example, a day with a mean temperature of 40°F has 25 HDD. Two such cold days in a row have a total of 50 HDD for the two-day period.

EPA REDUCTION IN EMISSION THRESHOLD COMING IN 2024

In the development of the Wood Stove Exchange Program, the DEQ assumed the level at the Hare Field monitor was 31.3 ug/m³ (micrograms per cubic meter), the 3-year average from 2011-2013 (and what the PM2.5 standard is based on to determine if an area is in compliance with the EPA standard). Because the EPA attainment level was 35 ug/m³ in 2014, and to reduce wintertime particulate, specifically particulate matter of 2.5 microns or less (PM2.5), the DEQ initially set targets during this program development at 30 ug/m³ and 25 ug/m³ for estimating purposes.

In the original program proposal by the county, a target of 25 ug/m³ was selected, and the county and DEQ proposed that changing out 700 wood stoves would be necessary to reduce the average to 25.0 ug/m³.

The EPA has recently stated that the PM National Ambient Air Quality Standards (NAAQS) attainment level will be reduced in 2024, and likely to 25 ug/m³.

To effectively reduce the amount of wintertime particulate to amounts that protect the public’s health throughout the County and reduce levels of PM 2.5 to the original acceptable concentration of 25 ug/m³, and given the lower level lower attainment level coming in 2024, staff has assessed a benefit to continuing the program to ensure we remain sufficiently below the new threshold.

The implications of this tighter standard could be that the county will be closer to the non-attainment status that brings strict requirements on existing industry in the region. This may include restrictions on facilities’ potential to expand production or requirements to install expensive emission control technology.

The chart below illustrates the number of days the Hillsboro Hare Field monitor tracked PM2.5 over 25 ug/m³ versus 35 ug/m³ in the months of November through February in years 2010 – 2022 and early 2023.

The column on the right shows only five exceedances of the current design value of 35.5 ug/m³ in the last 10 years (county efforts on local particulate reduction). The middle column shows 33 exceedances in the last 10 years of the expected new 2024 design value of 25 ug/m³. It will soon be that the county has a significant challenge to remain in attainment of the clean air standard.

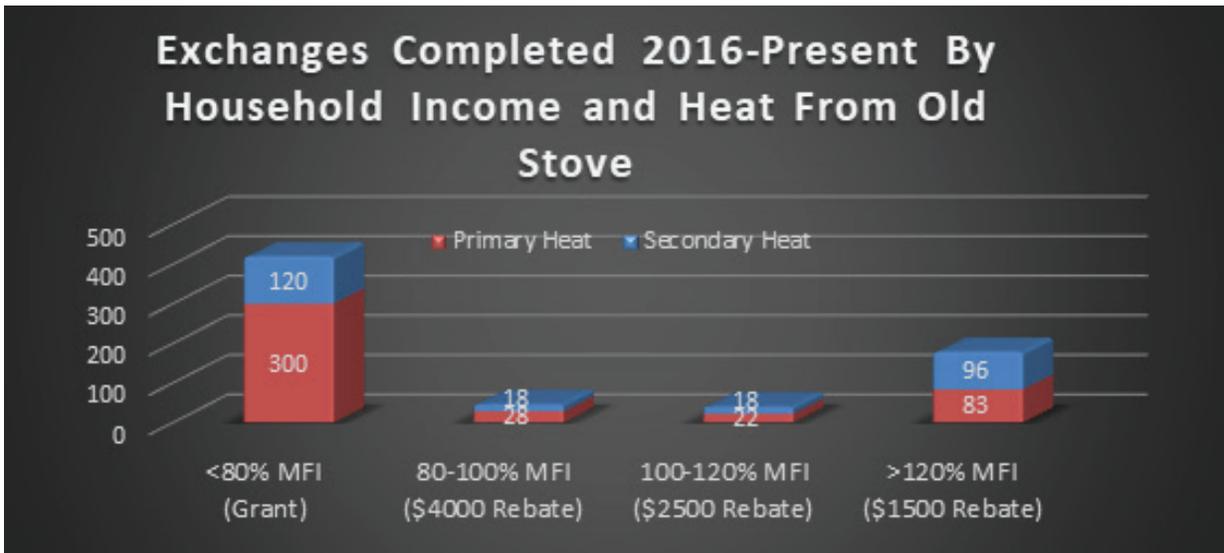
HHF PM2.5 Nov-Feb days	≥25 to 35.4 (µg/m3)	≥35.5 (µg/m3)
2010	1	1
2011	9	7
2012	3	1
2013	9	9
2014	4	1
2015	8	0
2016	2	0
2017	6	1
2018	3	1
2019	5	1
2020	2	0
2021	0	0
2022	2	0
2023 Jan-Feb	1	1



OLD WOOD STOVE AS A PRIMARY OR SECONDARY HEAT SOURCE

As part of the data collected from each household, participants provide income and other documentation for the household and are asked three questions to determine the amount of wood burned per season and if the old stove is a primary or secondary heat source.

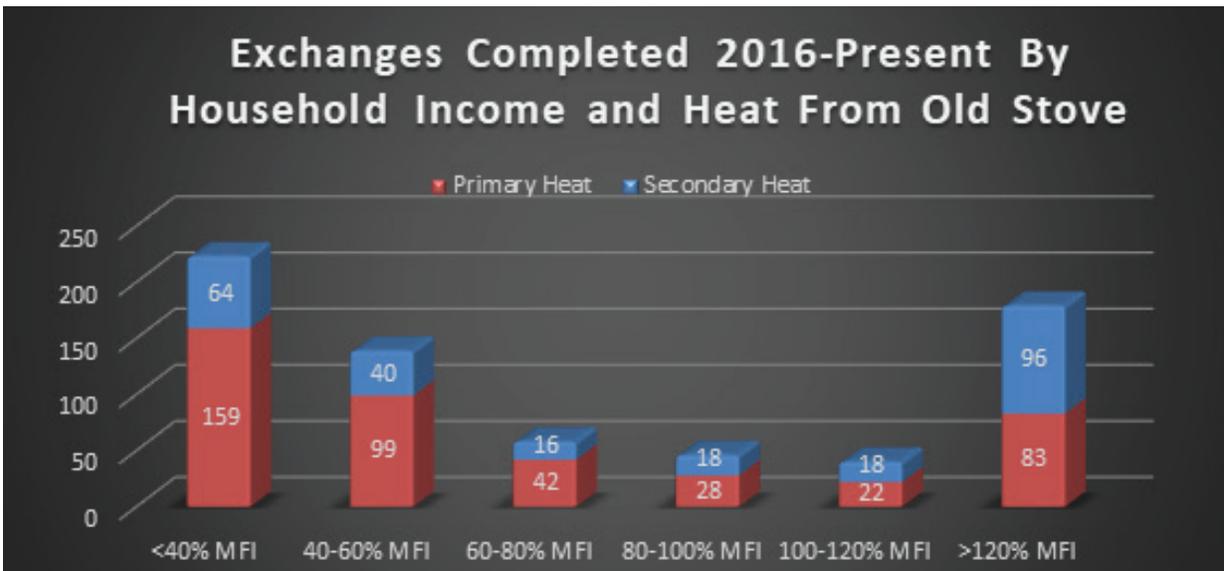
Each column in this chart corresponds with the four income categories the program uses to provides a grant or level of rebate to participating households. 71.4% of households receiving the grant in the program (<80% MFI) use their old wood stove at the primary heat source and burn an average of 3 cords of wood per season. Overall, the 433 primary wood burners represent almost two-thirds (63.2%) of the program participants and burn the largest average amount of wood per season.



MFI denotes the current yearly area Median Family Income as determined each year by HUD.

Splitting out the Grant level (those households below 80% of MFI) into more specific income categories below, displays the importance of free or inexpensive* wood heat as primary heat for lower income households.

* 71% of all program applicants get their wood for free or with the \$20 Forest Service Permit

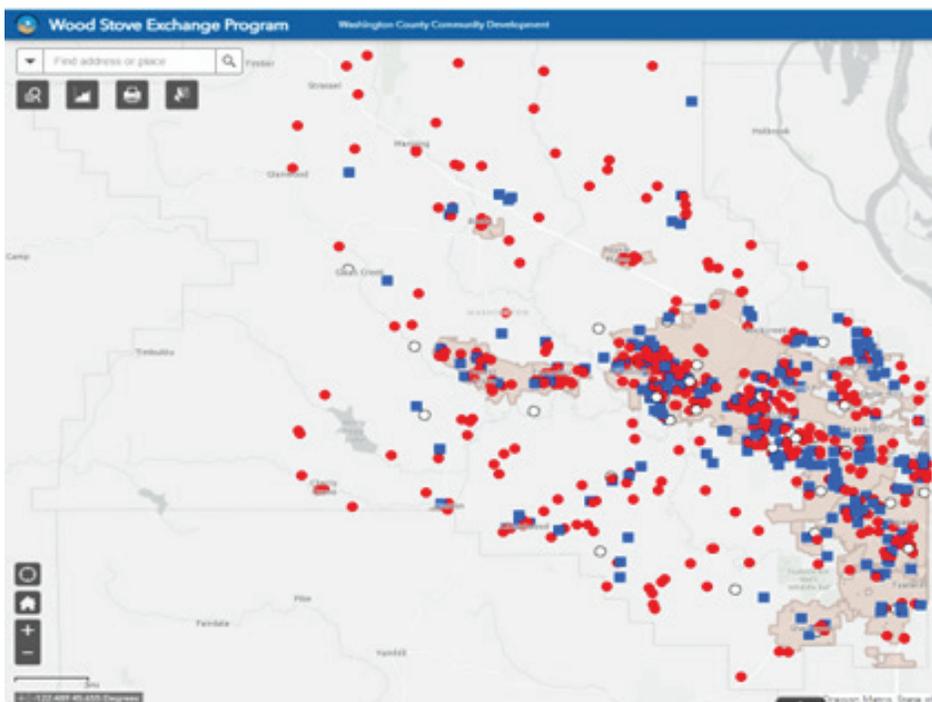


This displays the importance of continuing to offer cleaner, more efficient devices to all county residents, especially those using their old stoves as primary heat sources and producing more wood smoke particulate.

MAPPING SHOWS USE OF OLD WOOD STOVES THROUGHOUT COUNTY

Created by the county IT Mapping team specifically for this program, the program utilizes a GIS map of data from program participant homes and households and county land data. The data includes information on grant or rebate, wood use, type of heating source, utility service, some demographics, age of the home, etc. Using multiple layers and combining various layers for charting data and reporting provides the program a more accurate assessment of program participation and specifics that can enhance future outreach and education efforts.

Below is a GIS map example showing that those households using the old stove as primary heat (red dots) are spread about the county, in urban and suburban areas, and not just rural areas.



Red = Old wood stove as the Primary heat source (50% - 100% of heat)

Blue = Old wood stove as the Secondary heat source (1% - 49% of heat)

POSITIONING WSE TO MEET CHANGING AIR QUALITY STANDARDS

The program is working to potentially extend the program and wood stove exchanges to 1,000 devices (about 3 additional years). The goalposts are changing as the target for outdoor air quality as measured by particulates is being reduced. Overall, this more stringent goal is good for community health, but means that we have more work to do. If the area goes out of compliance and into “nonattainment”, impacts on industry will be challenging. It's easier (and more cost-effective) to be proactive and position the county to meet the new standards.

In the original program goal set by the county and the DEQ based on the 2014 Wood Smoke Survey, it was determined that changing out 700 wood stoves would be necessary to reduce wintertime wood smoke emissions to a target of 25 ug/m³. In that 2014 survey, the DEQ estimated 180 tons of PM2.5 produced annually from wood burning in Washington County. This was based on a small set of 82 survey respondents that used uncertified wood stoves. From the 2014 DEQ survey – “The numbers of wood burning respondents in each area are not sufficient to make a statistically valid analysis of each sub area, or to accurately compare sub areas”. An estimate from this survey proposed that 17% of wood burners in the county were using their stoves as primary heat.

The extent of old stove use as the primary heat source may be much larger in Washington County and producing much more wintertime wood smoke than estimated in 2014. Data realized from over 880 assessments of WSE participant homes with old and uncertified stoves, shows nearly 2/3 (63.2%) of households assessed are using the old wood stove as a primary source of heat, nearly 4 times more than assumed in the development of the program. We ask multiple questions in each household assessment to best determine wood burning practices and amount of wood use. Based on information from our assessments, that could be as much as just over 600 tons per year of PM2.5 alone. Assumptions could be made that emissions of the other gases and pollutants are also 3 to 4 times higher than previously assumed.

Or looking at it from a different standpoint, where the development of the program estimated 700 exchanges might reach the PM2.5 emissions goal, the information culled from the assessments of participants households shows we may have prevented only about ¼ of the emissions reduction originally assumed as needed to stay within attainment of the standard.

A nonattainment designation triggers new requirements for manufacturing and construction permits and infrastructure development, and additional regulations on business emissions are required in an effort to get the region back in compliance with air quality standards. Poor air quality also causes project delays, estimated in the millions. In addition, costs may increase for emission reduction plans, transit and carpool programs and tools and technology needed to reduce pollution.

A recent study was performed of the effects of non-attainment in the San Antonio area (same population as the Portland Metro area = 2.5 million). To analyze the true cost of nonattainment, the Alamo Area Council of Governments released a high-profile study in 2017 regarding consequences if San Antonio fails to maintain acceptable air quality standards. The study, "Potential Costs of a Nonattainment Designation for the San Antonio Region," revealed the potential impact San Antonio and its surrounding counties would suffer if the region remained in nonattainment. The study showed companies that plan to expand or that must relocate can incur a loss ranging from \$699 million to \$24 billion. Entities that are required to have permits to adhere to strict regulations could expect to spend \$24 million to \$60 million for such permits.

The study was led by Dr. Steven Nivin, assistant professor of economics at St. Mary's University. Niven's findings show potential costs if the region receives either a marginal or moderate nonattainment classification.

We could conclude that the impact in winter of particulate from wood stoves is much larger than previously thought. The pie is much larger, why not take a larger slice?

Benefits of extending the program - Staying in compliance with the upcoming lower air quality standard and continuing to improve outdoor and indoor air quality and associated health issues for residents of Washington County are apparent.

The design of the program with in-home assessments, engaging people where they live, brings trust in the program, and motivates residents to exchange their old stove for new, cleaner devices.

The program is successful – Improving overall particulate matter in outdoor air and improving indoor air quality and related health outcomes for over **675 households in Washington County (most of those being low/moderate income households)**.

Increasing the goal to 1000 stoves soon, builds on program efforts to date, existing community partner momentum, awareness of the program, and takes advantage of new programs from the Oregon Community Heat Pump Deployment Program, the Energy Trust Community Funding Partnership, the Federal Clean energy Tax Credit, and potential EPA grants.

ODOE COMMUNITY HEAT PUMP DEPLOYMENT PROGRAM

Collaboration is needed on complicated housing problems, and solutions to home repair, heating, cooling, and safety issues that utility-based energy efficiency programs do not typically address. And because the manufactured housing, publicly supported housing, and low-income communities are at risk of displacement and the people that live there are so vulnerable, new programs are being developed at the state level.

The program was asked to provide input and assist with language for Oregon Senate Bill 1536 (SB1536) in 2022. SB1536 passed and the ODOE Community Heat Pump Deployment Program is launching this August. This program provides over \$10 million in funds for a heat pump incentive program to homeowners. A version of this program for renters requesting heat pumps is also rolling out soon.

The program is designed to assist those communities that the WSE program works with routinely - people with wood stoves, homes with high energy burdens, manufactured housing residents, households in older housing, with electric resistance heating, etc.

The Washington County Wood Stove Exchange Program and Housing Rehab Programs, Washington County Community Action, and similar programs in Multnomah and Clackamas Counties are part of a regional implementation of this ODOE program with Earth Advantage acting as the region administrator. The program hopes to provide new devices and weatherization to those households most needing assistance.

ENERGY TRUST - PROGRAM PARTNER AND HEAT PUMP PROGRAM

The Wood Stove Exchange program and Housing Rehabilitation have partnered with the Energy Trust and their Community Partner Funding program. This program offers increased incentives for lower income customers of PGE and NW Natural Gas, in partnership with programs such as the WSE and Housing Rehabilitation. The additional incentive dollars may allow the Housing Rehab program to include more repair and rehab elements to some projects, and other incentives used for each eligible project will extend the funding of the WSE and Housing Rehabilitation programs, possibly providing for more projects to be completed each year.

The Community Partner Funding program also provides “No Cost” ductless heat pump (NCDHP) installs to households with incomes below 60% of the state Median Family Income (MFI). The WSE program has included 4 NCDHP projects to program participants during this past year. In addition, the WSE was able to assist an applicant that did not fully qualify for the Housing Rehab program, with over \$3000 in Energy Trust incentives for insulation installed in their home.

FEDERAL CLEAN ENERGY TAX CREDIT FOR EFFICIENT WOOD AND PELLET STOVES AND HEAT PUMPS

Households buying and installing highly efficient wood or pellet stoves (biomass heating systems), or heat pumps may be eligible to claim a 30% tax credit. Households can potentially claim this credit for any out-of-pocket costs above the program grant or rebate.

The program informs each possible eligible project of the tax credit at the initial assessment. Once the project is completed, the program provides details of the tax credit, including how to check efficiencies on the [EPA database](#), and a link to the [IRS Form 5695](#) for their next federal tax return. To date, participants were eligible for \$31,458 in total tax credits.

HILLSBORO AS A STAKEHOLDER AND PARTNER

Since program inception, the City of Hillsboro has been a funder of the Wood Stove Exchange Program. Over the 6 previous years with Hillsboro funding of \$75,000 each year, 165 Hillsboro residents have applied to the program with 132 completing projects. Program payouts to those 132 completed exchanges total \$556,500.

This 2022-2023 fiscal year included 13 projects completed in the city limits of Hillsboro, with payouts totaling \$60K. Also included in the last 3 years is funding for the Old Stove Turn-In Event up to \$10K per event.

Hillsboro has also been a partner in promoting the WSE program through the sustainability division, fire department, at the city administration building, the Tuesday Night Market, and others.

THIRD ANNUAL OLD STOVE TURN-IN EVENT

The Washington County Wood Stove Exchange Program and Solid Waste and Recycling again conducted the Old Stove Turn-in Event May 6th with a \$250 reward for the turn-in and recycling of old, uncertified wood stoves or inserts or those certified from 1986 to 1992 that are intact and in working order. These old devices produced more than 10 times more particulate and harmful pollutants and gasses than new certified stoves.

This event offers a solution to one major challenge – the selling and trading and re-use of old uncertified stoves. The event and the funds distributed are available to homes in Washington County (one per household/address).

Outcomes - 40 old wood stoves were turned in by county residents, 31 stoves were still in use, 15 of which were being used as a primary heat source for the household. Emissions prevented from the 31 stoves still in use amounted to more than 120 tons.

Outcomes of the 2023 Old Stove Turn-in Event:

- 40 old wood stoves were turned in by county residents
- 31 stoves were still in use
 - 15 were being used as a primary heat source for the household
- Emissions prevented from stoves still in use amounted to more than 120 tons
- 3.05 tons of PM_{2.5} and PM₁₀ (wood smoke particulate matter) emissions prevented
- 11.49 tons of carbon monoxide (CO) emissions prevented
- 3.19 tons of methane emissions prevented
- 3.08 tons of volatile organic compounds (VOCs) and hazardous air pollutants (HAPs) emissions prevented
- 99.60 tons of carbon dioxide (CO₂) emissions prevented

Total emissions prevented: 120.40 tons*

**Calculation based on reported use of 83 cords of wood used per stove per heating season*



PROGRAM ENHANCEMENT FOR HOUSEHOLD SAFETY AND ASSISTANCE

The program continues to emphasize air quality and safety in the home. Over 40% of the homes assessed in the program do not have carbon monoxide (CO) monitors. In the course of the Wood Stove Exchange program process and to meet current building code, program staff provides a CO monitor at the initial assessment.

Information is also provided on strategies to reduce indoor smoke during wildfire events, resources for energy assistance/ lowering energy burden, weatherization, utility incentives, federal clean energy tax credits, housing rehab and repair assistance for lower income households.

US EPA NATIONAL RESIDENTIAL WOOD SMOKE TRAINING WORKSHOP

Program staff attended and presented at the workshop. The training covered curtailment programs, the Wood Heater New Source Performance Standard (NSPS), learnings from voluntary programs from around the country, wood stove and air quality education campaigns, best practices for appliance incentive programs, and new and existing funding opportunities.

A major focus of the Workshop included how to leverage funding from the Inflation Reduction Act (e.g., Environment and Climate Justice Block Grants, direct rebates, tax credits) and overcome barriers to encourage and incentivize the installation of heat pumps in homes currently using wood as their primary or secondary source of heat.

COMMUNITY EDUCATION EFFORTS

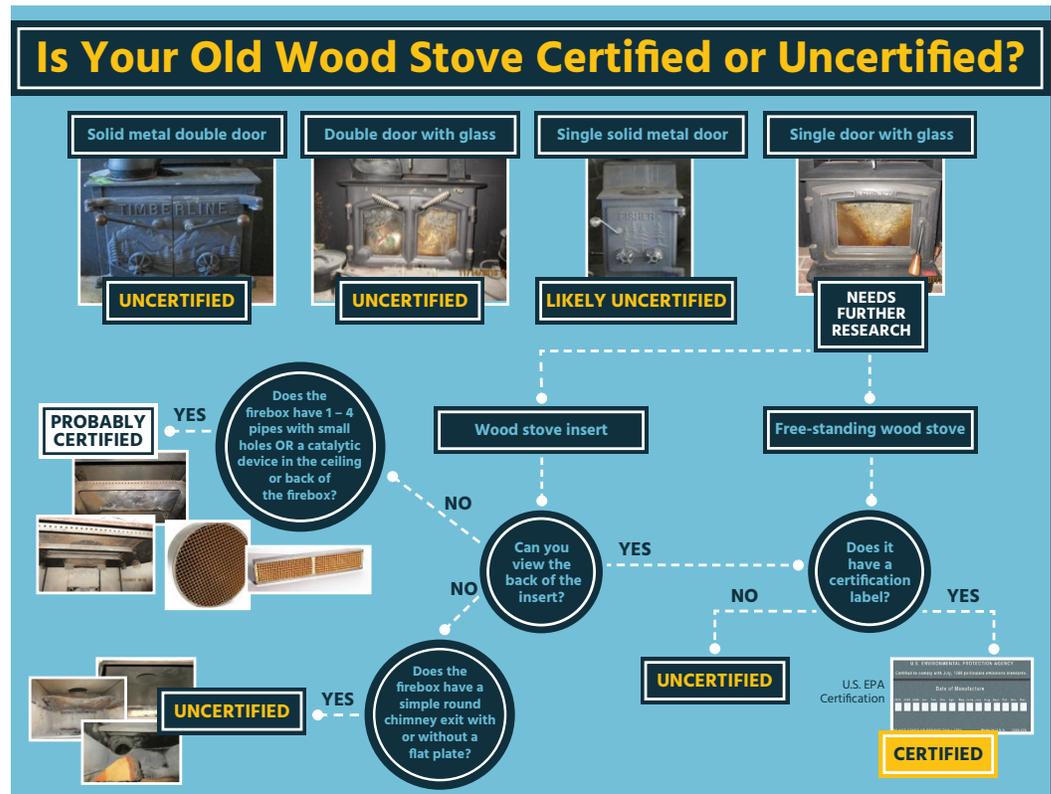
Outreach efforts always include education on the effects of air quality on health, clean burning methods, health and safety, program options, and strategies preparing for and during wildfire smoke events.

In addition to social media efforts and in-person events, the program brochure reaches more people with education on improving air quality and associated health benefits, encourages the use of clean wood burning practices, offers safety tips, and encourages participation in the Wood Stove Exchange.

Additionally, the brochure lists helpful resources such as Oregon Heat Smart, the OregonAir app, EPA Burnwise, and how to access air quality alerts at www.publicalerts.org.



The program has developed a flyer to assist residents in determining if an old stove may be uncertified. The other side of the flyer has step-by-step instructions on determining if the stove is certified or uncertified as well as a link to the EPA site to search for specifics on wood heaters. This flyer is also distributed to local insurance agencies, real estate offices and real estate home inspectors. It is also offered to potential participants in the program. The U.S. EPA and the Alliance for Green Heat are also offering the flyer on their websites.



Wildfire Smoke and Your Health!



Stay informed.



For air quality conditions and smoke forecasts, visit the Oregon Department of Environmental Quality's website at www.deq.state.or.us/aqi/ or download the OregonAIR smartphone app.

Pay attention to local news and follow @WashingtonCountyHHS on Facebook for health information and air quality updates.

Avoid smoky air.



Stay inside as much as possible. Avoid physical activity outdoors.

People who are at higher risk for health problems from smoke should take precautions, such as those with heart or lung conditions like asthma, COPD or cardiovascular disease, older adults, pregnant women, babies and children.

Keep indoor air clean.

Close windows and doors. Open them when air quality is good.

Use fans or air conditioner. Set home or car air systems to recirculate mode.



Change the filter on your heating and cooling system. Use filters rated **MERV 8** or higher.

Consider buying a portable air cleaner with a **high efficiency particulate air (HEPA) filter**, especially if you have health conditions that could get worse with smoke.

Don't smoke, use candles or vacuum when air quality is poor.

Watch the tri-county health officer's short four-part video series for ways to improve your home's indoor air quality at <https://bit.do/health-tip-videos>.

Contact your health care provider.



If you have a health condition and your symptoms get worse around smoke, contact your health care provider for prevention and treatment advice.

Call 911 if you or someone else has serious symptoms like trouble breathing.

www.deq.state.or.us/aqi/
@WashingtonCountyHHS on Facebook



v. 7/2021

The Health and Human Services Department has updated their sheet on avoiding smoky air, keeping the air inside your home clean, alerts and apps to stay informed. This is linked on the Wood Stove Exchange website as well as distributed at every program event. It also includes information on "How to Build a Low-Cost Air Filter" from a box fan and furnace filter. This is particularly helpful in the nearly 50% of Washington County households with only electric resistance heat and no air filtration.

ANNUAL SURVEY

The annual survey was performed this year after a 2 year absence due to the COVID-19 pandemic. The 2023 survey included households served between 2020-2023. 146 surveys were mailed with 54 responses.

The program continues to have an extremely high satisfaction rating of 4.83 out of 5. Contractors continue to receive high marks for satisfaction, averaging 4.76 out of 5. Responses and comments are used to fine-tune the program and refine communications.

Friends, family and neighbors are the program's top referring source, and our postcards, local newspapers, program contractors, program website and Facebook drive over 72 percent of participants to the program.

HIGHLIGHTS OF FEEDBACK FROM THIS YEAR'S SURVEY

“ The company doing the work was very easy to work with. They made sure I would get the stove that met my needs.

“ I am amazed by the positive difference the new stove has made. I can burn larger pieces of wood and the fire is easier to start.

“ Heats faster & stays on even longer than our old wood stove. Love this program, told neighbors & family all about it. I wish we had done this years ago!

“ Wood lasts 2-3 times longer. We can heat entire house all winter with only wood. We are very thankful. We would not have replaced old stove without program. We had no idea how wonderful a Blaze King stove could be. It makes us so happy. We have lived in our home 33 years & have never been so comfortable in fall, winter or spring.

“ Really happy WA (Washington County) offers this incredible program! Thank you! I tell all of my real estate clients about it!

YEAR SEVEN REPORT SUMMARY

Awareness of the program remains strong, evidenced by the continued interest during the past program suspension and moderate levels of promotion and outreach.

Efforts continue for sources to fund expanding and extending the program, including potential EPA grants from the Inflation Reduction Act, Climate Justice Block Grants, and others. Additional efforts are targeted to state and local sources, including industry and cities.

The major successes of the Wood Stove Exchange program in the seventh year include:

- 70 completed exchanges increased the total exchanges to date to 675, preventing emissions of over 375 tons of particulate matter, pollutants, and gases, and 2420 tons of carbon dioxide emissions (CO²)
- The Old Stove Turn-in Event removed an additional 40 stoves from use or potential resale and re-use in the community and prevented 120 tons of particulate matter, pollutants, and gases from being continually emitted
- Staff assisted with Earth Advantage and Multnomah and Clackamas counties in applying for and being awarded the ODOE Community Heat Pump Deployment Program for this region
- Through the Energy Trust Community Partner Funding program provided “No Cost” ductless heat pump (NCDHP) installs to 4 households and increased insulation incentives to another county resident
- Applications continue to arrive to the program at an average of 1.5 per week with current outreach efforts and proves the consistent word-of-mouth from participants and residents and the promotion of the program by our partners continues to increase awareness
- The commitment of community organizations, business, industry, utilities, and funders to spread awareness of the program and air quality issues continues to be vital to the success in implementing the program

A growing, diverse mix of supporters and partners is essential to raising awareness and educating the public. Partners that have been instrumental in the program’s progress include City of Hillsboro (project funder), Intel (project funder), the cities of Banks, Beaverton, Cornelius, Forest Grove, Gaston, North Plains, and Tigard, Washington County Community Action, and Oregon DEQ.

PARTNERING ORGANIZATIONS

- Alliance for Green Heat
- American Lung Association
- Boy Scouts of America
- breatheOregon
- Cedar Mills News
- Centro Cultural
- City of Banks
- City of Beaverton
- City of Cornelius
- City of Forest Grove
- City of Gaston
- City of Hillsboro
- City of North Plains
- City of Tigard
- Community Action of Washington County
- Energy Trust of Oregon
- Environmental Protection Agency
- Habitat for Humanity
- Hillsboro Fire & Police Department
- Intel
- National Hearth Patio and Barbecue Association
- NW Natural
- Neighbors for Clean Air
- Oregon Department of Energy
- Oregon Department of Environmental Quality
- Oregon Department of Forestry
- Oregon Health Authority
- Oregon Hearth Patio and Barbecue Association
- Oregon Real Estate Inspectors Association
- Portland General Electric
- RE/MAX
- 350.org
- Washington County Community Participation Organizations
- Washington County Solid Waste & Recycling
- WCCCA 911
- Westside Economic Alliance



CONTACT INFORMATION

Washington County Office of Community Development
Wood Stove Exchange Program
328 W Main St., Suite 100, MS 7
Hillsboro, OR 97123
503-846-4434

WoodStoveExchangeProgram@washingtoncountyor.gov | www.WoodStoveExchange.com