

New woodstoves support better air

Replacing woodstoves helps families, air quality and local business

Editor's Note

This is the final story in a series.



Mike Johnston

Wood stoves

Greg Armstrong, owner-operator of Armstrong's Stove and Spa in Ellensburg, adjusts wood in a display woodstove, Thursday. The stove is the exact Lopi model used in a state-funded HopeSource program that contracts with Armstrong's to replace old, inefficient stoves with new, cleaner and more efficient stoves for eligible low-income residents in the Kittitas Valley. (Mike Johnston / Daily Record)

How many use wood stoves?

The 2010 U.S. Census Bureau data for Kittitas County indicates 8.1 percent or 1,344 households in the county, out of a total of 16,619, use wood heat in some manner, either as a main source of heat or a supplement.

State Department of Ecology officials estimate that with the ongoing downturn in the economy, it's likely that number of county wood stove users has increased.

Many use them as a way of reducing their home heating bills.

Greg Armstrong, owner-operator of Armstrong's Stove and Spa in Ellensburg, said the percentage of woodstoves he sells/installs, out of total sales of wood, gas and pellet stoves, has grown steadily in the past two years and continues to be the product he sells the most of out of the three.

"In the 19 years I've been in business, I've never seen it (woodstove sales) grow this much in a relatively short period of time," Armstrong said.

He believes local residents wanting new woodstoves will continue to grow.

"I think it's about being somewhat energy independent when it comes to home heating," Armstrong said.

Survey: half of stove users burn wood daily

Fifty-one people brought 71 old wood stoves to turn in during the Nov. 3 wood stove bounty event in Ellensburg, and they also took a survey on their wood stove use:

- The majority of the people heard about the stove turn-in and survey from the Daily Record newspaper or by word of mouth.
- More than half of the people bringing stoves in use only wood to heat at home or wood in combination with another heat source (gas, electric, natural gas), although a few are switching away completely from wood-based sources in part because of the bounty event.
- More than half use their wood stoves daily during the home-heating season.
- People hear about winter burn bans because of stagnant air from a lot of different sources: newspapers, TV local news, radio, online and by word of mouth.
- Most people are concerned about air quality in the region: only 11 out of 51 said they were not at all concerned.

— State Department of Ecology.

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By MIKE JOHNSTON senior writer |

Andrew Lyons of HopeSource doesn't see any downside whatsoever in an ongoing project to replace old, inefficient woodstoves with new ones used by local low-income families.

"The new (woodstoves) burn less wood, can give more heat, generate less harmful emissions and create a more healthy air quality for the family and the community," said Lyons, HopeSource's weatherization energy program manager, earlier this week.

A state Department of Ecology grant supports the program that aims to change out 24 old, free-standing woodstoves or fireplace inserts with the same number of new units that meet federal and state emission standards for small-particle smoke emissions and wood-burning efficiency.

Fifteen old units have been replaced so far since the beginning of the year in the Ellensburg and Kittitas Valley area involving families and others who depend on wood heat as their primary source of warmth.

Those selected for the help also have low incomes in relation to federal poverty levels and have incomes that are at or below 60 percent of the state's median income.

Fits in

Lyons said HopeSource, the countywide private, nonprofit social service and community action agency, applied for the DOE program and was selected based on its track record in carrying out similar programs in the past.

“This program ties right in with (HopeSource’s) goal of helping local residents achieve self sufficiency in their lives,” Lyons said.

Those meeting the exacting eligibility requirements for the program end up using less split wood, also a money savings, Lyons said.

In addition, the stoves are put in according to all building codes, thus making them safer all-around in their regular use.

Lyons said some of the old stoves taken out were either not installed according to code or didn’t reflect new safety codes adopted since their installation.

Priorities

Lyons added that the program also helps the local economy: HopeSource contracted with Armstrong’s Stove and Spa on Vantage Highway to be the vendor that takes the old units out and puts in new stoves. The firm also supplies a specific model that exceeds state and federal standards, the Lopi Republic.

The HopeSource program places a priority on low-income applicants who own their home, have respiratory or cardio-impaired residents living in the home, are seniors citizens and/or have children under the age of 6, and have wood burning devices older than 15 years.

The new stoves burn more of the wood and dense smoke and emit less harmful fumes into the household. Those who heat regularly with woodstoves, on the average, have a higher frequency of respiratory problems, DOE officials say.

Smoldering, overnight fires in old stoves emit more dense smoke, with the small-particle portion of that smoke holding a half to a third of the potential burnable material, said DOE’s southeast region Smoke Management Specialist Jay Carmony.

“So, in reality, money and energy is literally going out the chimney with the smoke,” Carmony said.

Hotter, smaller fires, even in older wood stoves, will consume much more of the wood, utilizing more of its energy, and produce much less harmful smoke, Carmony said. The goal of hotter fires is to heat up not only the living space but get the items in the main rooms warm, too.

The woodstove change-out program is part of DOE’s campaign to lessen wood smoke pollution in the fall and winter home heating months in the Kittitas Valley when inversions trap concentrated smoke closer to the ground.

Many of the smoke’s smaller particles are toxic, according to the DOE’s website. Most are so small that, when someone breathes them in, they get past the body’s defenses and go deep into the lungs.

There, they can cause serious problems such as scarring of the lung tissue. Studies show that death rates in several U.S. cities increased when there were higher levels of fine particles in the air. Wood smoke, the DOE says, is most dangerous to the health of infants and children, pregnant women, the elderly and people with asthma, lung or heart disease and respiratory illnesses.

More problems

Studies show that people who heat their homes with wood have more respiratory problems than those who don't, according to the DOE website. Smoke particles also invade neighboring homes, the DOE warns. Research shows that children in wood burning neighborhoods are more likely to have lung and breathing problems.

A 2009 DOE analysis estimates that fine-particle pollution, including from wood smoke, contributes to about 1,100 deaths and millions of dollars in health-care costs each year in Washington.

Carmony said state government's emission standards for wood stoves are more stringent than federal rules.

Monitoring the air

There's only one air-quality monitoring device in the Kittitas Valley, and that's atop the Hal Holmes Community Center off Ruby Street in Ellensburg.

In 2011, that monitor recorded 17 days during the home-heating season when the smoke particulate level exceeded the state's minimum healthy air goal or was right on the minimum.

If pollution reaches too high a level, the state can issue two types of winter-time bans on indoor wood stove burning: stage one is banning the use of all older, uncertified stoves; stage 2 is a halt in all wood heating no matter the age or type of stove.

Greg Armstrong, owner of Armstrong's Stove and Spa, said it's estimated that burning wood in a single, old, uncertified woodstove can give off the same amount of emissions as 10 federally certified stoves.

Armstrong said it is illegal in the state to install a woodstove that is uncertified and doesn't meet federal and state emission standards. They also can't be sold, given away, or traded.

As a general rule of thumb, Armstrong said, if you know your woodstove or insert was manufactured prior to 1994, then it most likely does not meet Washington state emission standards.